INDEX

WELCOME

It is with great pleasure on behalf of ADIPS, SOMANZ and the Organising Committee to welcome you to Queenstown for the triennial scientific meetings of our two societies. We have put together an exciting programme which includes clinical and scientific presentations relating to environmental toxins, epigenetics, fructose, medical problems in pregnancy and more. The meeting will commence with a Trans Tasman debate on GDM. We look forward to seeing you all in Queenstown and hope you enjoy the conference and the city.

Ruth Hughes and Aidan McElduff
(On behalf of the joint ADIPS/SOMANZ Organising Committee)

CONFERENCE ORGANISING COMMITTEE

Ruth Hughes (SOMANZ Chair) - Canterbury District Health Board, New Zealand
Aidan McElduf (ADIPS Chair) - Northern Sydney Endocrine Centre/ University of Sydney, New South Wales
Eileen Bass - Hutt Valley DHB, New Zealand
Suzie Neylon - Society of Obstetric Medicine of Australia and New Zealand and Australasian Diabetes in Pregnancy Society
Linda Valenzisi - Society of Obstetric Medicine of Australia and New Zealand and Australasian Diabetes in Pregnancy Society

CONFERENCE SECRETARIAT

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ASN Events Pty Ltd
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Balnarring Vic 3926, Australia
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CONFERENCE WEB ADDRESS:

www.adips-somanz.org

SOCIETY HOME PAGES:

www.adips.org and www.somanz.org

SPONSORS

MAJOR SPONSOR

EXHIBITORS

DELEGATE INFORMATION

VENUE

Millennium Hotel Queenstown
32 Frankton Road,
Queenstown 9300
New Zealand
Phone: +64 3 450 0150
Fax: +64 3 441 8889

REGISTRATION DESK – ASN EVENTS

The registration desk will be located in the Pre Conference Area.
The registration desk will be open:

- Thursday 24th July from 4:00 PM to 7:30 PM
- Friday 25th July from 8:00 AM to 6:00 PM
- Saturday 26th July from 8:00 AM to 12:00 PM
- Sunday 27th July from 8:00 AM to 12:00 PM

WHAT YOUR REGISTRATION INCLUDES

Delegate and student registrations include:

- Access to sessions of your choice for nominated days of attendance
- Morning tea, lunch and afternoon tea on days of nominated attendance
- Conference satchel including conference material
- Delegate abstract proceedings
- GST

SOCIAL PROGRAM

ADIPS SOMANZ Conference Dinner
Friday 25th July
7:00 PM - 10:30 PM
Prime Waterfront Restaurant and Bar
2 Rees Street, Queenstown Lakefront, Queenstown NZ
Prime Waterfront Restaurant and Bar is a 9minute walk from the Millennium Hotel Queenstown.

SPEAKER PREPARATION

Presentations are to be loaded direct to PC in the room in which the speaker is presenting. Please make sure you have loaded your presention well in advance of your session. You should bring your talk on a USB, saved in a format for display on a PC. A technician will be on hand to assist with any loading issues and to help you check your presentation. Please note there are no Macintosh computers in the presentation rooms.

DISPLAYING YOUR POSTER

Posters can be displayed for the duration of the conference and will need to be removed before 12:00pm on Sunday 27th July. There are 2 official poster sessions:

SOMANZ Guided Posters & Welcome Drinks
Thursday 24th July
6:00 PM - 7:30 PM
Galaxy III & Gallery

ADIPS Selected Poster Presentations
Friday 25th July
11:45 AM - 12:45 PM
Galaxy I

Please locate your abstract number for correct positioning. The maximum size allowed is 1 m wide by 1.2 m high. The approved method for attaching your poster is with Velcro. Please visit the registration desk for additional supplies.

NAME TAGS

Delegates and registered partners are required to wear their name tags to all scientific and catered sessions. Name tags and registration materials should be collected from the registration desk on arrival.

SMOKING

Smoking is not permitted in the venue.

INSURANCE

The hosts and organisers are not responsible for personal accidents, any travel costs, or the loss of private property, and will not be liable for any claims. Delegates requiring insurance should make their own arrangements.

DISCLAIMER

The hosts, organisers and participating societies are not responsible for, or represented by, the opinions expressed by participants in either the sessions or their written abstracts.

QUEENSTOWN, NEW ZEALAND

Queenstown is one of New Zealand's top visitor destinations and it's easy to see why. The town sits on the shore of crystal clear Lake Wakatipu among stunning snow-capped ranges. World-class winter skiing is just 30 minutes away and activities such as bungy jumping, canyon swinging, jet boating, horse trekking and river rafting are on year round. There's easy access to nature on the many walking and biking trails, or sightseeing tours. Other recreations include indulgent spa treatments, boutique shopping and excellent food and wine.

CLIMATE

Winter in Queenstown - Surrounded by snow capped mountains, a crystal clear lake and the bluest of skies, you'll love winter here - it's truly breathtaking! Days can be filled with skiing, snowboarding, tubing or snowshoeing and winter events. Wrap up warmly with plenty of layers - daily temperatures range between -2oC and 8oC.

DINING OUT

Delectable food and a great night out are always on the menu in Queenstown, New Zealand. There are more than 150 restaurants, bars and cafes to choose from in the Queenstown region, as well as takeaway options, specialty food shops, wineries and markets selling local produce. Enjoy something different during your stay – no two meals will be the same, but each as fresh and delicious. Queenstown restaurants are of international standard, offering local and ethnic cuisine from award-winning chefs. In addition to excellent food, Queenstown restaurants offer superb local wines, striking views and exceptional service. Whether you're celebrating a special occasion, doing business or grabbing a quick meal out with friends, there's a Queenstown restaurant that's perfect for you.

Restaurant Tips

- Price range: Main meals cost between NZ$20 - $45 per person.
- Dress code: Casual and family restaurants adopt a casual dress code. Other restaurants expect tidy dress.
- Open hours: New Zealanders dine early, with many restaurants serving dinner from 5pm. Closing times vary, from 9pm onwards, so call ahead to check if intend to dine late.
- Top Tip: Ask your waiter for recommended local wine matches for your meal.

DON'T LEAVE QUEENSTOWN BEFORE YOU

Cruise on the TSS Earnslaw - This iconic steamship makes several daily trips across the stunning Lake Wakatipu to Walter Peak High Country Farm.

Explore the outback - Take a 4WD safari through rugged back country to Skippers Canyon, try gold panning or just drink in the scenery.

Play a round of golf - From immaculate resorts to backcountry fairways, Queenstown offers world-class golfing amongst breathtaking scenery.

Tour through nearby Gibbston Valley - A stunning wine region surrounded by mountains interlaced with lakes and deep river gorges. Sample award-winning wines or enjoy an alfresco lunch next to the vines.

Challenge yourself - Queenstown has it all – skydiving, bungy jumping, river rafting plus great hiking and mountain biking trails to explore.

Visit Arrowtown - A picturesque historic gold mining village twenty minutes drive from Queenstown. Home to boutique designer stores, galleries, fine dining restaurants and cafes.

TRAVEL INFORMATION

Getting to Queenstown and exploring the area is easy, with a wide selection of transport options. The centre of Queenstown is located on the edge of Lake Wakatipu, within 10 minutes' drive of Queenstown International Airport. You'll find a good public bus network and free transport provided by many local activity operators, making it easy to explore our region. Many attractions and accommodation options are in the town, so they can be reached easily by foot.

Rental Cars - Queenstown is home to the best known rental car brands from around New Zealand and the world. With car rental outlets at Queenstown International Airport, and in downtown Queenstown, picking up or dropping off your rental vehicle is easy and convenient. Queenstown car rental outlets offer a range of makes and models to suit every budget and every style of road trip.

Queenstown taxis and shuttles - provide a convenient, affordable mode of transport to get around town, up the ski slopes or to and from Queenstown International Airport.

Taxis and shuttles are available directly outside the airport. You can also catch a taxi in the centre of town at a taxi stand, or you can book a taxi over the phone.

Throughout winter, there are a number of ski shuttle buses that transfer skiers and snowboarders between Queenstown and the local ski areas.

INVITED KEYNOTE SPEAKERS

PROF PETER SLY

M.B.B.S, F.R.A.C.P, M.D,D.Sc

Deputy Director, Queensland Children's Medical Research Institute

Professor Peter Sly is recognised internationally in the area of Children's Environmental Health. He currently directs the Children's Health and Environment Program at QCMRI, The University of Queensland; is on the Advisory Board for a long standing WHO – National Institute of Environmental Health Sciences Collaborative Agreement; is the Chair of the Board of Directors of the Pacific Basin Consortium for Environment and Health; and is an advisor to the WHO, Public Health and Environment Section. Professor Peter Sly is a NH&MRC Senior Principal Research Fellow and a paediatric respiratory physician with extensive research experience in respiratory physiology.

Faced with the global challenge of the escalating incidence of childhood lung diseases Professor Peter Sly seeks to identify and develop preventative strategies for children at greatest risk. There is an increasing recognition that most chronic adult diseases have their origin in childhood; especially respiratory and cardiovascular diseases. Professor Peter Sly's research aims to understand the mechanisms underlying chronic childhood lung diseases in order to improve clinical management and to delay or prevent their onset, with consequent reductions in adult lung diseases. A combination of basic science, longitudinal cohort studies and translation of research findings into clinical practice, including clinical trials, are included in three main areas: asthma, cystic fibrosis and children's environmental health. Professor Peter Sly is a frequent speaker at international conferences and widely published in the leading journals in his field.

PROF SIR PETER GLUCKMAN

Liggins Institute, Auckland University

Professor Sir Peter Gluckman trained in paediatrics and endocrinology at the Universities of Otago, Auckland and the University of California, San Francisco. He returned to the University of Auckland 1980 to establish a research group in perinatal physiology and was executive Dean of the Faculty of Medicine and Health Sciences from 1992-2001 and from 2001-2009 was foundation director of the Liggins Institute of the University of Auckland where he now heads the Centre of Human Evolution, Adaptation and Disease. His research encompasses the regulation of fetal and postnatal growth, nutrition, obesity and diabetes, the developmental origins of metabolic disease, the evolutionary-developmental biology-medical interface and epigenetic epidemiology. He has published over 500 refereed papers, 150 reviews and authored both technical and popular science books. He is also Chief Scientific Officer at the Singapore Institute of Clinical Sciences and holds honorary chairs at the National University of Singapore and the University of Southampton. He was elected a fellow of the Royal Society of NZ in 1986, conferred a Companion of the NZ Order of Merit in 1997 and conferred a knighthood in 2009. He was appointed University Distinguished Professor by the University of Auckland in 2001 when he was also awarded New Zealand's highest scientific award, the Rutherford Medal. He has received numerous other scientific awards nationally and internationally. He was elected a Fellow of the Royal Society (London) in 2001, a foreign member of the Institute of Medicine of the National Academy of Sciences (USA)(2004) and a Fellow of the Academy of Medical Sciences UK (2006). In 2009 he was appointed the first Chief Science Advisor to the Prime Minister of New Zealand on a part-time basis

A/PROF CECILIE LANDER

University of Queensland, Royal Brisbane and Women's Hospitals

A/Prof Cecilie Lander is a clinical neurologist and epileptologist in Brisbane. She trained at the Royal Brisbane Hospital, the Austin Hospital in Melbourne and the University College Hospital in London. Returning to Brisbane in 1979, Cecilie has worked continuously in both private and public neurological practice with particular clinical and research interests in epilepsy. She was a Senior Visiting Neurologist at the Royal Brisbane and Women's Hospitals for 34 years, actively involved in all aspects of epilepsy management especially in the Epilepsy surgery program.Cecilie has had a long standing interest in the pharmacological management of epilepsy, especially in women in the areas of pre-pregnancy planning, pregnancy and post- partum management. She established a specific Antenatal Clinic for Women with Epilepsy in 1979 at the RBWH and this clinic continues to serve women with epilepsy who are pregnant or planning a pregnancy. She is a Co-Investigator of the Australian Pregnancy Register for Women on Anti-epileptic Medication. This presentation will focus on the practical management of epilepsy in reproductive women.

INVITED SPEAKERS

DR ALAN BARCLAY

Chief Scientific Officer, Glycemic Index Foundation, St Leonards, NSW

Dr Alan Barclay is an Accredited Practicing Dietitian and Accredited Nutritionist and has a PhD from the University of Sydney on the association between glycemic index and glycemic load and the risk of developing lifestyle-related diseases. The main chapters of his thesis, and associated works, have been published in some of the worlds leading nutrition and diabetes journals, and have been presented at scientific conferences around the globe. Alan is currently the Chief Scientific Officer at Glycemic Index Foundation (part-time). Alan worked for Diabetes Australia in both a full and part-time capacity, from 1998 - 2014, most recently as Head of research, and prior to that as Research and Development manager. Alan has worked in clinical dietetics in rural Australia and at Royal Prince Alfred Hospital, Sydney, and has maintained a private practice in Sydney since 1995. Alan is an official Media Spokesperson for the Dietitians Association of Australia and has appeared frequently in local newspapers, magazines, radio and television news. Alan is also one of the co-authors of the New Glucose Revolution: Diabetes & Pre-diabetes handbook and The Ultimate Guide to Sugars and Sweeteners.

PROF LEONIE CALLAWAY

Head, Royal Brisbane Clinical School, University of Queensland, Herston, QLD

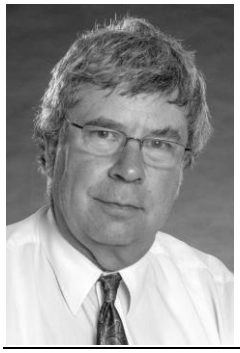
Professor Leonie Callaway holds a conjoint position as Head, UQ's Northern Academic Cluster, and Senior Specialist in Obstetric and Internal Medicine at the Royal Brisbane and Women's Hospital.
Leonie has a major interest in the prevention of pregnancy complications, and enjoys the privilege of supervising a range of PhD scholars in this area. A key research project at present is a NH&MRC funded randomized controlled trial for the prevention of gestational diabetes.

DR DAVID COLE

Canterbury District Health Board, NZ

Dr David Cole is Clinical Director for General Medicine at Christchurch Hospital and Senior Clinical Lecturer at the University of Otago Medical School. His specialty interests include Endocrinology and Obstetric Medicine.

PROF JULIAN CRANE



University of Otago, Wellington

Professor Julian Crane is the Research Professor Department of Medicine at Wellington School of Medicine. Director Wellington Asthma Research Group. Current research interests asthma and allergic disease, housing and respiratory health and smoking cessation.

PROF TIM CUNDY

Professor of Medicine, Medicine, FMHS, University of Auckland, Auckland

Professor Tim Cundy trained in diabetes and endocrinology at Kings College Hospital in London and in Oxford. He is a Professor of Medicine at the University of Auckland and has published extensively on a variety of subjects, including diabetic pregnancy.

DR ROSAMUND HILL

Auckland Hospoital, Auckland

Dr Rosamund Hill is an Auckland based Neurologist with a special interest in headache. She completed her Neurology training in Auckland and Boston followed by an M.D. at the University of Auckland. She predominantly consults in private combining this with some time at Auckland Hospital and her research interests in Autism and Headache.

DR PENNY HUNT

MBChB, FRACP, MD

Endocrinologist, Christchurch Hospital, Christchurch

Dr Penny Hunt is a Consultant Endocrinologist working at Canterbury DHB and in private practice, and Assoc. Professor of Medicine at the Christchurch School of Medicine, University of Otago, Christchurch. Penny trained at Otago before working in Christchurch where she completed her MD thesis identifying the peptide ProBNP – now a routine marker of cardiac dysfunction. Her postgraduate fellowship was at Oxford University, UK, focusing on the genetics of autoimmune thyroid disease and DHEA therapy in adrenal insufficiency. Her current work is predominantly clinical, encompassing all aspects of endocrinology.

DR DEBORAH MASON

Neurologist, New Zealand Brain Research Institute, Christchurch

Dr Deborah Mason started working life as a physiotherapist working before completing a BSc (Honours) at the University of Western Ontario Canada in 1986. In 1988 returned to New Zealand to attend medical school at Otago (MBChB 1992). Following medical school she completed physician training and neurology in Auckland, New Zealand. One year of neurology training was spent as the travelling Australasian clinical fellow at the Royal Free Hospital in London, England followed by a two year fellowship in multiple sclerosis at the London Health Sciences University Hospital in London Ontario. In 2003 Dr Mason returned to New Zealand to take up a consultant neurology position at Christchurch Hospital. In addition to her hospital position she is also a clinical senior lecturer of the Christchurch campus of the University of Otago medical school and is affiliated with the New Zealand Brain Research Institute. Her principal research interest is in multiple sclerosis. She was one of the lead investigators of the New Zealand Multiple Sclerosis Prevalence study and has been involved in a number of gene studies in MS. She is currently the principal investigator for the New Zealand Multiple Sclerosis Incidence study and the lead investigator for the Vitamin D intervention trial in MS.

DR AIDAN MCELDUFF

Endocrinologist, Northern Sydney Endocrine Centre/ University of Sydney, St Leonards, NSW

Dr Aidan McElduff is an academic physician in private practice in North Sydney and an associate professor in the discipline of medicine, Sydney University. He is the current president of ADIPS and the secretary general for the International Association of Diabetes in Pregnancy Study Groups. He has a long-standing interest in the endocrine problems/issues relating to pregnancy.

PROF DAVID MCINTYRE

MB BS (Qld) FRACP MD (Qld)
Head of Mater Clinical School, University of Queensland, Brisbane, Australia
Head of Mothers and Babies Research Theme, Mater Research Institute – University of Queensland
Director of Obstetric Medicine, Mater Health Services

Professor David McIntyre trained in Endocrinology in Australia and Belgium. He is Head of the Mothers and Babies Research Theme at the Mater Research Institute – UQ and a member of the Mater Medical Research Institute Board. Professor McIntyre also maintains clinical involvement as Director of Obstetric Medicine at Mater Health Services and Head of the Mater Clinical School of the University of Queensland. Recent research studies have examined the effects of diabetes, obesity and high blood pressure during pregnancy on the health of Mothers and Babies, both during pregnancy and with long term follow up. Professor McIntyre had previously been Chair of the National Diabetes in Pregnancy Advisory Group for the Australian Government and is currently the Chair of the International Association of Diabetes in Pregnancy Study Groups (IADPSG). Professor McIntyre has been closely involved in the translation of clinical research findings into clinical practice, in particular through the re definition of gestational diabetes and promotion of optimal diagnosis and treatment of this common pregnancy complication.

PROF JONATHAN MORRIS

Royal North Shore Hospital, NSW

Professor Jonathan Morris is Director of the Kolling Institute of Medical Research and the University of Sydney's Northern Clinical School based at Royal North Shore Hospital. He is a clinical research scientist who is a Maternal Fetal Medicine Specialist. He leads a large research group with basic science, clinical trial, population health and perinatal interests. Currently he is a Chief Investigator on several large randomised trials assessing the best management for the preparation and treatment of preterm birth.

DR RINKI MURPHY

University of Auckland, Auckland

Dr Rinki Murphy is an endocrinologist with a special interest in monogenic forms of diabetes and severe insulin resistance. Since completing her PhD in genetics and epigenetics of diabetes at the University of Plymouth in 2007, she returned to work in Auckland at both Auckland and Counties Manukau District Health Boards, and is a senior lecturer in medicine at the University of Auckland. She established the national monogenic diabetes guidelines and research database (www.nzssd.org.nz), and conducts research in the two broad areas of genetics and physiology of diabetes and obesity.

DR EMMA PARRY

MBBS, MD, FRANZCOG, FRCOG, CMFM

Consultant in Maternal-Fetal Medicine, Auckland District Health Board, St Heliers, Auckland

Dr Emma Parry is a Specialist Obstetrician and Gynaecologist and a Subspecialist in Maternal Fetal Medicine. She is currently Clinical Director of the New Zealand Maternal-Fetal Medicine Network. She is based at Auckland City Hospital which has one of the largest maternity units in the country. Emma has varied clinical interests, but is especially interested in complex multiple pregnancy, 3D scanning of fetal anomalies, Health Informatics in Women's Health and improving Maternal and Perinatal Health in the Developing World. She established the New Zealand Maternal Fetal Medicine Network (NZMFMN) and introduced the high tech procedure of Selective Fetoscopic Laser Photocoagulation for Twin-to-Twin Transfusion Syndrome to New Zealand. Emma has worked in Bhutan assisting with the inception and development of a perinatal unit which is now established. Deaths and serious injury for mothers and babies has now started to fall as a result of this initiative and many others. Emma is a member of several committees both within Auckland City Hospital and New Zealand. She is a regular speaker and organizes conferences and workshops in New Zealand and Australia through several organizations and is a recognised leader in Australasia in the field of Maternal Fetal Medicine. Emma is a member of the RANZCOG MFM sub-specialty committee and Chair of the OSCE examinations. Emma is the media spokesperson for the RANZCOG and has used her high profile to advantage in this role. In 2010 she was recognised for her work in New Zealand and Bhutan as the recipient of the Inaugural Woman of the Year award.

DR JANET ROWAN

Obstetric Physician, Obstetrics, National Women's Hospital, Auckland

Dr Janet Rowan is a general physician who found her way into the diabetes in pregnancy world. She is the physician leader of the diabetes in pregnancy service at National Women's, Auckland. This year, this service expects to care for 35-40 women with type 1 diabetes, 100 with known type 2 diabetes and 550 with GDM. She is predominantly a clinician but also has clinical research interests, which she undertakes to answer the clinical uncertainties we all deal with. She was the PI for the metformin in gestational diabetes (MiG) trial and now The Offspring Follow Up (TOFU), who are currently being assessed at 9 years of age. She was the NZ representative involved with the development of the international GDM diagnostic criteria. One of her current interests is the role for HbA1c in pregnancy.

PROF GERALD TANNOCK

University of Otago, Wellington

Professor Gerald Tannock is a Professor in the Department of Microbiology and Immunology at the University of Otago, Dunedin, New Zealand. His research concerns fundamental microbial ecology and translational research concerning the microbial community inhabiting the bowel of humans. After graduating from the University of Otago, he spent two years as a Fogarty International Postdoctoral Fellow with Dwayne C. Savage at the University of Texas and the University of Illinois. He has been a member of the staff of the University of Otago since 1974, being awarded a personal Professorial Chair in 1996. Professor Tannock held a part-time position at the University of Alberta, Canada, from 2001 until 2005. Professor Tannock was elected Fellow of the American Academy of Microbiology in 2002, Fellow of the Royal Society of New Zealand in 2011, and is currently a James Cook Research Fellow.

DR LUCILLE WILKINSON

MBChB, FRACP

Specialist Physician – General Medicine and Obstetric Medicine, Auckland City Hospital

Clinical Director – Admission and Planning Unit, Auckland City Hospital

Dr Lucille Wilkinson is an Internal Medicine specialist with a subspecialty interest in Obstetric Medicine. Lucille trained at National Women's and Auckland City Hospital. She holds a specialist position in both General Internal Medicine and Obstetric Medicine at Auckland City Hospital, and is a Senior Clinical Lecturer at Auckland Medical School. Lucille is also the Clinical Director of the Admission and Planning Unit at Auckland City Hospital. Her particular clinical interests include HIV and pregnancy, cardiac disease in pregnancy and quality improvement in acute care settings. She has three school-aged children, and enjoys long distance ocean swimming.

PROGRAM

THURSDAY 24TH JULY, 2014

Registration Open — Pre Conference Area
4:00pm - 6:00pm

Debate — Galaxy I & II
5:00pm - 6:00pm
Chairs: Ruth Hughes & Aidan McElduff

Diagnosing Gestational Diabetes
David McIntyre v Tim Cundy

Welcome Function — Galaxy III & Gallery
6:00pm - 7:30pm

SOMANZ Guided Posters — Galaxy III & Gallery
6:00pm - 7:30pm
Chairs: Mark Morton & Emma Parry

6:00 PM **Narelle Kennedy**
Ultrasound measurement of subcutaneous fat thickness as an independent predictor for adverse pregnancy outcomes abs#051

6:05 PM **Helen Robinson**
Metastatic Adenocarcinoma of the Colon in Pregnancy – A Case Series abs#052

6:10 PM **Victoria Eley**
The antenatal anaesthetic interview assists maternal decision-making but does not increase anxiety level or risk perception in pregnant women who are obese abs#053

6:15 PM **Christine Duong**
Trajectory of platelets in pregnancy- do low-risk women need an intrapartum full blood count (FBC) prior to epidural? abs#054

6:20 PM **Helen Robinson**
A Single Centre Study of the Management of Thyroid Disease in Pregnancy abs#055

6:25 PM **Kristine Matusiak**
Can neonatal stress reactivity be reliably measured in the context of routine care? Salivary cortisol and the neonatal heel stick abs#056

6:30 PM **Rosemary McBain**
Interpregnancy weight gain is associated with increased risk of gestational diabetes in women of normal body mass index abs#057

6:35 PM **Jas-mine Seah**
The enigma of bone fragility in a young mother abs#058

6:40 PM **Wing-hung Tam**
Case report: Primary hyperparathyroidism in pregnancy: the role of parathyroidectomy abs#059

6:45 PM **Irena Idel**
Are Reduced First Trimester Papp-A Concentrations in Women with Type 1 Diabetes Associated with Preeclampsia, Premature Delivery and Small for Gestational Age Infants? abs#060

SOMANZ Council Meeting — Meeting Room 1
7:30pm – 8:30pm

FRIDAY 25TH JULY, 2014

ADIPS Council Meeting Meeting Room 1
7:30am - 8:55am

Registration
8:00am - 6:00pm Pre Conference Area

Monogenic Diabetes Galaxy I & II
9:00am - 9:30am
Chairs: Ruth Hughes & Aidan McElduff

Rinki Murphy
Making a monogenic diagnosis of diabetes or severe insulin resistance abs#001

INTERNATIONAL PLENARY SPEAKER Galaxy I & II
9:30am - 10:30am
Chairs: Ruth Hughes & Aidan McElduff

Peter Sly
Early life exposure to environmental toxicants and the risk for obesity and type 2 diabetes abs#002

Morning Tea Galaxy I & II
10:30am - 11:00am

ADIPS GDM Guidelines Galaxy I
11:00am - 11:23am

SOMANZ Hypertension Guidelines Galaxy II
11:23am - 11:45am

Sandra Lowe, David McIntyre & Aidan McElduff

SOMANZ Selected Oral Presentations Galaxy II
11:45am - 12:45pm
Chairs: Ann Quinton & Robyn Barnes

11:45 AM **Ruth Hughes**
An HbA1c of 41-46 mmol/mol (5.9-6.4%) at booking is associated with an increased risk of adverse pregnancy outcomes abs#003

12:00 PM **Marloes Dekker Nitert**
Women with preeclampsia have higher placental fibroblast growth factor 21 (fgf21) mRNA but not protein expression abs#004

12:15 PM **Rosemary McBain**
Interpregnancy weight loss is associated with reduced risk of gestational diabetes and pregnancy induced hypertensive disorders among women who are overweight or obese abs#005

12:30 PM **Antonia Shand**
Inflammatory Bowel Disease (IBD): prevalence and pregnancy outcomes in New South Wales, Australia abs#006

ADIPS Selected Poster Presentations Galaxy I
11:45am - 12:35pm
Chair: Janet Rowan

11:45 AM **Zoran Apostoloski**
Pregnancy Outcomes in Women with Type 2 Diabetes Mellitus: A Retrospective Review abs#061

11:50 AM **Robyn Barnes**
Ethnic differences in pregnancy outcomes according to the amount of gestational weight gain in women with Gestational Diabetes Mellitus abs#062

11:55 AM **Helen Barrett**
Validation of a triglyceride meter for use in pregnancy abs#063

12:00 PM **Jeff Flack**
GCK Monogenic Diabetes and Gestational Diabetes: Possible Diagnosis on Clinical Grounds abs#064

12:05 PM **Emer Heatley**
Clinician views and knowledge on postpartum healthcare provision for women who have had gestational diabetes mellitus: a systematic review of qualitative/survey studies abs#065

12:10 PM **Irena Idel**
Neonatal Outcomes in Babies of Mothers with Type 1 Diabetes with and Without Preeclampsia abs#066

12:15 PM **Raj Kumar**
Influence of Diabetes Antenatal Clinic and Education (DANCE) on neonatal outcome in Lyell McEwin Hospital, a tertiary care hospital in northern Adelaide abs#067

12:20 PM **Samantha Rand**
A review of mobile applications for gestational diabetes mellitus abs#068

12:25 PM **Jas-mine Seah**
The Effects of Diabetes and Pregnancy on Tumour Necrosis Factor-alpha Receptors 1 and 2 abs#069

12:30 PM **Geetha Theverkalam**
Euglycaemic ketoacidosis in Pregnancy abs#089

SOMANZ AGM Galaxy II
12:45pm - 1:00pm

Lunch Galaxy III & Gallery
1:00pm - 2:00pm

Gut Microbiota and Chronic Disease Galaxy I & II
2:00pm - 2:30pm
Chairs: Alison Nankervis

Gerald Tannock
Gut microbiota and chronic disease abs#007

Probiotics in the Prevention of Chronic Disease and Allergy in Offspring Galaxy I & II
2:30pm - 3:00pm
Chairs: Alison Nankervis

Julian Crane
Probiotics in Chronic Disease: prevention and treatment abs#008

Probiotics in the prevention of GDM Galaxy I & II
3:00pm - 3:30pm
Chairs: Alison Nankervis

Leonie Callaway
Probiotics and the Prevention of Gestational Diabetes abs#009

Afternoon Tea Galaxy III & Gallery
3:30pm - 4:00pm

ADIPS Free Communications Galaxy I & II
4:00pm - 5:00pm
Chair: Cindy Porter

4:00 PM **Arianne Sweeting**
An analysis of prevalence, maternal clinical characteristics and pregnancy outcomes associated with early versus late diagnosis of gestational diabetes compared to women with pre-existing diabetes abs#010

4:15 PM **Stephanie Hopkins**
A comparison of maternal characteristics and pregnancy outcomes in women with Type 1 and Type 2 diabetes managed at the Royal Women's Hospital 2009-2013 abs#011

4:30 PM **Tang Wong**
Assessment of pregnancy outcomes according to the amount of gestational weight gain in women with Gestational Diabetes Mellitus abs#012

4:45 PM **Callum Umstad**
Is an abnormal postnatal glucose tolerance test associated with adverse pregnancy outcomes? abs#013

Workshop Galaxy I & II
5:00pm - 6:00pm
Chairs: Peter Wein & Karin Lust
Management of Difficult Pregnancies Complicated by Diabetes
Jonathan Morris & Janet Rowan

Free Time
6:00pm - 7:00pm

Conference Dinner Prime Waterfront Restaurant
7:00pm - 10:00pm

SATURDAY 26TH JULY, 2014

Fructose and Diabetes: the facts Galaxy I & II
8:15am - 8:45am
Chairs: Robert Moses

Alan Barclay
Fructose and Diabetes: the facts abs#014

KEYNOTE SPEAKER Galaxy I & II
8:45am - 9:45am
Chairs: Robert Moses

Allan Sheppard speaking on behalf of Sir Peter Gluckman
Evolution, Epigenetics and Pregnancy: A tangled path to diabetes and obesity abs#015

Morning Tea Galaxy III & Gallery
9:45am - 10:15am

Hyperparathyroidism Galaxy I & II
10:15am - 10:45am
Chairs: Leonie Callaway

Aidan McElduff
Pregnancy and hyperparathyroidism abs#016

Congenital Adrenal Hyperplasia Galaxy I & II
10:45am - 11:15am
Chairs: Leonie Callaway

David Cole
Congenital Adrenal Hyperplasia and Pregnancy abs#017

Thyroid Cases Galaxy I & II
11:15am - 12:00pm
Chairs: Leonie Callaway

Penny Hunt & Emma Parry
Thyroid Cases abs#018

ADIPS AGM Galaxy I & II
12:00pm - 1:00pm

NZ Obstetric Medicine Meeting Galaxy I & II
1:00pm – 1:30pm

Lunch & Free Afternoon
1:00pm - 6:00pm

SUNDAY 27TH JULY, 2014

SOMANZ STREAM

Headache & Migraine Galaxy II
8:00am - 8:30am
Chairs: Robyn North & Helen Paterson

Rosamund Hill
Headache, Hormones and Health abs#019

KEYNOTE SPEAKER Galaxy II
8:30am - 9:15am
Chairs: Robyn North & Helen Paterson

Cecilie Lander
Of Fits, Foetuses and Fertility: Issues for Women with Epilepsy abs# 20

SOMANZ Free Communications Galaxy II
9:15am - 10:07am
Chairs: Eileen Bass & Joanne Said

9:15 AM **Luke Grzeskowiak**
Late Gestation Antidepressant Use is Associated with an Increased Risk of Postpartum Haemorrhage abs#021

9:28 AM **Selina Boughton**
Intravenous iron use during pregnancy: comparison of ferric carboxymaltose and iron sucrose abs#022

9:41 AM **Joanna Gullam**
Weight and height measurement: potential impact in obstetric care abs#023

9:54 AM **Amyna Helou**
Treatment of High Blood Pressure During Pregnancy: Beliefs, experiences, attitudes and behaviours of pregnant women abs#024

Morning Tea Galaxy III & Gallery
10:10am - 10:30am

Multiple Sclerosis Galaxy II
10:30am - 11:00am
Chairs: Emma Parry & David Cole

Deborah Mason
Multiple Sclerosis abs#025

Workshop Galaxy II
11:00am - 11:45am

Stroke Cases
Lucille Wilkinson & Deborah Mason
Stroke Cases abs#026

SOMANZ Awards and Meeting Close Galaxy II
11:45am - 12:00pm

Karin Lust

Buses Depart for the Aiport
12:15pm - 12:20pm

ADIPS STREAM

ADIPS INTERNATIONAL PLENARY SPEAKER Galaxy I
8:30am - 9:30am
Chair: Amanda Bartlett & David McIntyre

Peter Sly
Health consequences for children of exposure to endocrine disrupting chemicals in the home abs#027

When to Deliver? Galaxy I
9:30am - 10:00am
Chair: Amanda Bartlett & David McIntyre

Jonathan Morris
When to deliver? abs#028

Morning Tea Galaxy III & Gallery
10:00am - 10:30am

ADIPS Free Communications Galaxy I
10:30am - 11:15am
Chairs: Helen Barrett & Aidan McElduff

10:30 AM **Stacey Hokke**
Impaired glucose tolerance in pregnancy reduces nephron endowment in offspring abs#029

10:45 AM **Debmalya Sanyal**
Management of gestational diabetes in a resource limited setting in India abs#030

11:00 AM **Robyn Barnes**
Ethnic Differences in the amount of gestational weight gain in women with Gestational Diabetes Mellitus abs#031

ADIPS Awards and Meeting Close Galaxy I
11:15am - 12:00pm

Buses Depart for the Aiport
12:15pm - 12:20pm

POSTER LISTING

ADIPS POSTERS

David Bailey
Diabetes, Deprivation and Pregnancy Outcome in South Auckland abs#070

Emma Fraser
The Psychological Burden of Gestational Diabetes Mellitus: A Pilot Study abs#071

Sarah Hunter-Smith
Timing and accuracy of self-monitoring of blood glucose (SMBG) in women with gestational diabetes mellitus (GDM) abs#072

Emily Ingram
Post-partum screening of women with gestational diabetes mellitus: prediction of abnormal glucose tolerance using antenatal factors and compliance with long-term follow-up abs#073

Melinda Morrison
Planning for the Best Start: An NDSS initiative to increase awareness of the need for pre-pregnancy planning and care in women with type 1 and type 2 diabetes abs#074

Melinda Morrison
Pregnancy in women with diabetes: the experiences of health professionals working with Aboriginal & Torres Strait Islander and Culturally & Linguistically Diverse women abs#075

Karaponi Okesene-Gafa
Knowledge and beliefs about nutrition and physical activity during pregnancy in women from the Counties Manukau District Health Board (CMDHB) region of New Zealand abs#076

Michelle So
Metformin use for type 2 diabetes in pregnancy: a single-centre experience abs#077

SOMANZ POSTERS

Zain Battikhi
Diagnostic approach to investigating the rare case of a pelvic ring fracture sustained during spontaneous vaginal delivery abs#078

Yu-Ting Huang
Ascites of Unknown Origin in Pregnancy abs#079

Claire Keenan
A single centre audit of iron polymaltose infusion in pregnancy abs#080

Aruna Munasinghe
Renal artery stenosis due to fibromuscular dysplasia in pregnancy presenting as severe hypertension and IUGR abs#081

Charlotte Reddington
Metastatic nasopharyngeal cancer in pregnancy: a case report and literature review abs#082

Evangeline Shalou
Perinatal Audit of Singleton Stillbirths in a Tertiary Hospital in Western Sydney abs#083

Antonia Shand
Iron supplement use among pregnant women Australia – are the right women taking the right amount? abs#084

Esther Tan
Maternal Body Mass Index (BMI) is not associated with adverse risk in women with gestational diabetes abs#085

Nicla Varnier
Triggers for delivery in pre-eclampsia abs#086

Mariyam Walls
Dietary vitamin, mineral and herbal supplement use amongst pregnant women attending antenatal care: the what, why and how much? abs#087

Juszie Whittaker
Visual disturbance in pregnancy with suspected cerebral infarction abs#088

ABSTRACTS

ORALS

#001

MAKING A MONOGENIC DIAGNOSIS OF DIABETES OR SEVERE INSULIN RESISTANCE

Rinki Murphy

University of Auckland, Auckland, New Zealand

Monogenic diabetes is mistakenly diagnosed as either type 1 or type 2 diabetes, yet accounts for approximately 1-2% of diabetes. Monogenic forms of severe insulin resistance, while much rarer than common forms of insulin resistance, frequently present in women with polycystic ovarian syndrome (PCOS). Identifying monogenic forms of diabetes or severe insulin resistance has practical implications for specific therapy, screening of family members, genetic counseling and better understanding of the disorders. This presentation will discuss local New Zealand cases with (1) monogenic diabetes due to GCK, HNF1A, HNF4A, HNF1B, m.3243A>G gene defects (2) monogenic forms of severe insulin resistance associated with PCOS due to INSR, PPARG, LMNA, PIK3R1, gene mutations. Practical aspects of their recognition, diagnosis and management will be emphasised.

#002

EARLY LIFE EXPOSURE TO ENVIRONMENTAL TOXICANTS AND THE RISK FOR OBESITY AND TYPE 2 DIABETES

Peter Sly

University of Queensland, Herston, QLD, Australia

There is a growing body of evidence that shows that environmental chemical exposures increase risk of development of obesity and type 2 diabetes. While the associations between exposure to a variety of environmental chemicals and obesity and diabetes have been seen across the life span, recent studies implicate exposure before birth as an important factor that increases risk of obesity later in life. The impact of pre-natal exposure on subsequent obesity has been demonstrated for a variety of environmental toxicants, including: tobacco smoke, DDE - the metabolite of DDT, hexachlorobenzene and PCBs. Studies in adolescents have implicated associations between obesity and serum concentrations of perfluoroalkyl chemicals and urinary BPA. Associations with various phthalates and metals have shown either positive, negative or no relations with obesity. In addition, at least one study has shown a relationship between increasing BPA concentrations and reduced BMI/adiposity in girls at 9 years of age, which suggests these relationships are quite complex. Many of the same contaminants that increase risk of obesity following early life exposure also increase risk of diabetes, although these studies have usually been conducted in adults, for example PCBs and organochlorine pesticides.

Maternal health problems during pregnancy, abnormal fetal growth and birth weight and preterm birth have all been linked to obesity and T2D later in life, although the associations can be complex. For example, low birth weight is associated with maternal exposure to a variety of environmental toxicants, including BPA, phthalates, perfluorinated compounds (PFOA and PFOS) and occupational exposures to pesticides. Further, there appears to be a relationship between environmental toxins and birth at lower gestational age, or preterm birth with phthalates and with PFOA/PFOS. Reduced gestational age and preterm birth have been shown to be associated with insulin resistance, as well as future obesity and type 2 diabetes.

The GIT microbiota is a key component of human homeostasis and "peripheral metabolism" (i.e. occurring in the GIT) increases energy extraction from food. The composition of the microbiota may protect or predispose individuals to obesity. The infant bowel is sterile at birth and the microbiota is established in early post-natal life. The composition of the microbiota is different in breast and formula fed infants and the timing of cessation of breastfeeding is an important event in establishing the microbiota. Infants with more short chain fatty acid producing bacteria have a more rapid increase in BMI in early life. Alterations to the GIT microbiota (dysbiosis) have been described in a variety of chronic inflammatory diseases such as inflammatory bowel disease, obesity and asthma. These changes commonly involve a reduction in so-called probiotic species, including lactobacillus and bifidobacteria as well as outgrowth of potentially pathogenic bacteria.

The GIT microbiota plays an important role in the biotransformation of dietary and environmental chemicals; generally aiding in the detoxification process. GIT microbes also modify levels of gut and liver metabolic enzymes that further aid in detoxification. The influence of environmental toxicants on the GIT microbiota has not been well studied, especially in humans. In animals, toxicants such as PCBs decrease microbiota diversity and this may contribute to the obesogen-activity of these chemicals. Interestingly, exercise reduces the impact of PCBs in mouse models.

#003

AN HBA1C OF 41-46 MMOL/MOL (5.9-6.4%) AT BOOKING IS ASSOCIATED WITH AN INCREASED RISK OF ADVERSE PREGNANCY OUTCOMES

Ruth Hughes, Joanna Gullam, Janet Rowan, M. Peter Moore

Canterbury District Health Board, Christchurch, New Zealand

Objective: Our aims were to examine the optimal early pregnancy HbA1c threshold for screening for undiagnosed pre-existing diabetes and examine pregnancy outcomes relating to this threshold.

Methods: During 2008-2010 in Christchurch, NZ, women were offered an HbA1c measurement with their 1st-antenatal bloods. A subset completed a 75g-oral glucose tolerance test (OGTT) before 20 weeks gestation and World Health Organisation criteria were applied to assess HbA1c performance. Pregnancy outcome data were collected from hospital databases and clinical records.

Results: An HbA1c threshold of 41mmol/mol (5.9%) captured all cases of 'overt' diabetes in the subset of women who undertook an early pregnancy OGTT. In the total cohort, pregnancy outcome data were then compared in women with a booking HbA1c above and below this

threshold. After excluding women that were treated for gestational diabetes, pregnancy outcomes were poorer in women with an early HbA1c of 5.9% -6.4% (41-47mmol/mol) (n=200) than in those with an HbA1c <5.9% (41mmol/mol) (n=8174). These data will be presented.

Conclusions: An HbA1c measurement is easily added to the 1st-antenatal bloods and a threshold ≥41mmol/mol (5.9%) identified all women with probable pre-existing diabetes and women with a higher relative risk of adverse pregnancy outcomes who may require increased surveillance and additional management in pregnancy.

#004

WOMEN WITH PREECLAMPSIA HAVE HIGHER PLACENTAL FIBROBLAST GROWTH FACTOR 21 (FGF21) MRNA BUT NOT PROTEIN EXPRESSION

Katherin Scholz Romero[1] , Helen L Barrett[1 2] , Marta H Kubala[1] , H David McIntyre[2] , Leonie Callaway[2] , Marloes Dekker Nitert[1 2]

1. *UQ Centre for Clinical Research, The University of Queensland, Herston, QLD, Australia*
2. *School of Medicine, The University of Queensland, Herston, QLD, Australia*

Background: Preeclampsia (PE) is the presence of hypertension and proteinuria after 20 weeks gestation and is associated with alterations of placental function. The incidence of PE is higher in insulin resistant states. Patients with PE have high circulating levels of the metabolic regulator fibroblast growth factor 21 (FGF21). FGF21 is also synthesized in the placenta. The aim of this study was to compare the expression of FGF21 and its receptors in placental tissue from pregnancies with and without PE. Circulating FGF21 in maternal and cord blood was also analysed.

Methods: Placenta was obtained with informed consent from 20 women with and 18 without late-onset preeclampsia, matched for maternal BMI, age and gestational age at delivery. mRNA expression was determined by qPCR with TBP as endogenous control and normalized for cellular composition of the sample. Protein expression was quantified by Western Blot and FGF21 levels were measured by ELISA in maternal and cord serum of ten mother-baby dyads per condition. Nonparametric testing was performed and results are expressed as median and interquartile range.

Results: FGF21 mRNA expression was significantly increased by 18-fold in placental tissue from PE pregnancy (2.94 (0.14- 15.38) compared with normal pregnancy (0.15 (0.04-2.1), *P*=0.0092). Placental FGF21 protein was not different between women with (0.0036(0.0029-0.031) or without (0.0058(0.0022-0.024)) PE. Placental FGF receptors (1-4) mRNA expression was not different, however, the co-receptor β-Klotho was significantly higher expressed in PE placentae (8.76(3.76-101.9)) compared to control (1.58(0.61-5.95), *P*=0.0013). Maternal FGF21 serum levels were similar in PE (0.44(0.3-1.0) and control (0.38(0.21-0.66)). Six infants (2 controls, 4 PE) had low levels of FGF21 in cord blood whereas the other infants had no detectable FGF21.

Conclusions: FGF21 mRNA but not protein expression is increased in the placenta of women with PE. The lack of changes in protein expression and the lack of reliably detectable FGF21 in cord blood indicate that placental FGF21 does not contribute to the pathology of PE.

#005

INTERPREGNANCY WEIGHT LOSS IS ASSOCIATED WITH REDUCED RISK OF GESTATIONAL DIABETES AND PREGNANCY INDUCED HYPERTENSIVE DISORDERS AMONG WOMEN WHO ARE OVERWEIGHT OR OBESE

Rosemary D McBain[1 2] , Vicki L Clifton[2] , Gustaaf A Dekker[1 2] , Luke E Grzeskowiak[2]

1. *Lyell McEwin Hospital, Elizabeth Vale, SA, Australia*
2. *School of Paediatrics and Reproductive Health, The Robinson Research Institute, The University of Adelaide, Adelaide, SA, Australia*

Objective

To examine the impact of interpregnancy body mass index (BMI) change on maternal and perinatal outcomes in subsequent pregnancies among women who are overweight or obese.

Method

Retrospective cohort study utilising routinely collected data on all deliveries at the Women's and Children's Hospital in Adelaide, Australia. All singleton births in women who had their first two consecutive births between January 2000 and December 2008 were originally included (N=8,368). Women were excluded if BMI was not recorded during either pregnancy (N=2,596), or if their BMI was <25 kg/m^2) during their first pregnancy (N=3,577), leaving a final cohort of 2,190. Maternal BMI was calculated from heights and weights recorded during the antenatal booking visit. Outcomes in the second pregnancy included gestational diabetes, pregnancy induced hypertensive disorder, large-for-gestational-age (LGA>90th centile), fetal macrosomia (birthweight >4500 g), small-for-gestational-age (SGA<10th centile). Outcomes were examined using multivariate logistic regression analyses adjusting for a number of confounders.

Results

Of the women who entered their first pregnancy as overweight/obese, 93% were overweight/obese in their second pregnancy. Mean interpregnancy weight gain was 3.8 kg correlating to a BMI increase of 1.33 kg/m^2**.** A small number of women (10%) managed to lose weight (≥-2 kg/m^2), while 37% gained weight (≥2 kg/m^2). Compared to women with a BMI which remained stable, those who lost weight had a reduced risk of gestational diabetes mellitus (adjusted OR 0.45 95%CI; 0.23, 0.88), pregnancy induced hypertensive disorders (adjusted OR 0.45; 95%CI 0.20, 0.99) and SGA (adjusted OR 0.37 95%CI; 0.19, 0.72). In contrast, weight gain was associated with an increased risk of gestational diabetes (adjusted OR 1.67; 95%CI 1.17, 2.38), but not of any other clinical outcomes.

Conclusion

Interpregnancy weight loss among women who are overweight and obese appears to be associated with a significantly reduced risk of subsequent adverse maternal and perinatal outcomes. Promoting weight loss among women who are overweight and obese who are planning a subsequent pregnancy represents an important target for improving outcomes.

#006

INFLAMMATORY BOWEL DISEASE (IBD): PREVALENCE AND PREGNANCY OUTCOMES IN NEW SOUTH WALES, AUSTRALIA

Antonia W Shand[1 2] , Jian Sheng Chen[2] , Warwick Selby[3 4] , Michael Solomon[3 5 6] , Christine L Roberts[2]

1. ***Royal Hospital for Women, Randwick, NSW, Australia***
2. ***Clinical and Population Perinatal Research, Kolling Institute of Medical Research, University of Sydney, Sydney, NSW***
3. ***Royal Prince Alfred Hospital, Camperdown, NSW***
4. ***Faculty of Medicine, Central Clinical School, University Of Sydney, Sydney, NSW***
5. ***SouRcE (Surgical Outcomes Research Centre), Camperdown, NSW***
6. ***University of Sydney, Sydney, NSW***

AIM

To determine the prevalence of the inflammatory bowel diseases (IBD) Crohn's Disease (CD) and Ulcerative Colitis (UC), in pregnant women and to determine the maternal and fetal/neonatal outcomes of women with IBD.

METHODS

A population-based record linkage cohort study was undertaken using linked birth records and hospital data, for women who delivered ≥20 weeks gestation in NSW from 2000 - 2012. Women with IBD were identified from hospital data, based on a diagnosis of IBD made in the medical records. We compared birth outcomes of women with a diagnosis of IBD and women without IBD. The outcome measures included caesarean section, 3rd or 4th degree tears, antepartum haemorrhage, preterm birth <37 weeks, small for gestational age (SGA <10th centile), and perinatal mortality (stillbirth or neonatal death within 28 days).

RESULTS

There were 3,271 women with IBD, a prevalence of 0.49% among 672,105 women giving birth. This included 1,756 women with CD who had 2801 births and 1,835 women with UC who had 3,081 births. Women with IBD were more likely to have a multiple pregnancy: 2.2% CD, 2.0% UC vs. 1.6% no IBD. The rates of caesarean section for women were significantly higher in women with IBD: 38.1% CD, 34.4% UC compared to 27.7% without IBD. This was due to higher rates of elective caesarean section: 25.0% CD, 21.9% UC compared to 15.8% without IBD. Women with IBD were more likely to have preterm birth: 9.5% CD, 7.2% UC vs. 6.6% without IBD. There was no difference in rates of 3rd or 4th degree tears, antepartum haemorrhage, spontaneous preterm birth, SGA, or perinatal mortality.

CONCLUSIONS

Women with IBD have significantly higher rates of caesarean section and iatrogenic preterm birth, however there was no difference in other obstetric or neonatal outcomes.

#007

GUT MICROBIOTA AND CHRONIC DISEASE

Gerald W Tannock

Department of Microbiology & Immunology, University of Otago, Dunedin, New Zealand

The human colon is home to trillions of bacterial cells that comprise the 'microbiota' ('microbiome'). High throughput analytical methods have increased detailed knowledge of the phylogeny of the fecal microbiota in the past two decades and the major bacterial species have been cultivated under laboratory conditions. The association of the microbiota with various health conditions and specific diseases has raised the profile of this area of research, but remedies for 'dysbiosis' of the bowel are required. Two aspects of our work will be covered in the presentation, one fundamental and one translational. Recent fundamental research has concerned a NZ probiotic culture (Lactobacillus rhamnosus HN001), known to reduce the prevalence of eczema in children as well as intestinal infections in rodents. We determined the impact of daily administration of HN001 in the drinking water of mice on mucosal gene expression in the small bowel. Murine genes associated with apoptosis were up-regulated in a time-dependent manner. Phenotypic change in relation to epithelial cell migration was observed. Recent translational research has concerned the microbiota of ileo-anal pouches under 'normal' and inflamed conditions. A comprehensive analysis of the composition of pouch microbiotas revealed marked differences in the kinds of bacteria predominating under different conditions of pouch health. A candidate bacterial species to be used as a probiotic was recognized and research is progressing in order to develop a commercial product. Overall, our research is aimed at understanding the implications of hosting a microbiota in our bowel and how tailored probiotics and prebiotics may aid in counteracting specific kinds of dysbiosis.

#008

PROBIOTICS IN CHRONIC DISEASE: PREVENTION AND TREATMENT.

Julian Crane

University of Otago, Wellington, New Zealand

Probiotics are defined somewhat loosely by the World Health Organisation as "Live micro-organisms which, when administered in adequate amounts, confer a health benefit on the host".

While they have been used in animal husbandry for many decades serious interest in their potential to prevent or treat human illness has only developed over the last two decades. Prevention or treatment of disease has focused on the bowel, allergic disease in infancy

particularly allergic dermatitis, gastroenteritis, and a variety of other infectious disorders for example urinary tract infections and vaginoses. The problems with many of these studies with the possible exception of allergic dermatitis is that they tend to be underpowered and often inadequately controlled.

The advent of high throughput sequencing and metagenomics has revolutionised interest in the microbiota of the bowel, skin and the upper and lower airway. Concurrently, this has raised interest in the way in which probiotics may interact with the development and maintenance of these microbiotas to improve human health. A good example is the current focus on the underlying microbiology of the gut in obesity, the energy extraction of the microbiota and the possible role probiotics might have in altering obesity related microbial patterns.

Probably the best studied area in terms of clinical trials are those that have used lactose metabolising probiotics to prevent allergic disease. The picture from these studies is somewhat mixed and beneficial effects tend to be both species and strain specific. As a result of their use in pregnancy there is evidence that some of these probiotics may be of benefit in gestational diabetes and vaginal infections during pregnancy. Probiotics have more clearly established themselves in the treatment of necrotising entercolitis in premature infants and in the form of donor faecal transplantation for C difficile infections.

#009

PROBIOTICS AND THE PREVENTION OF GESTATIONAL DIABETES

Leonie Callaway

University of Queensland, Herston, QLD, Australia

Over the last couple of years, there have been fascinating insights into the role of gut microflora in insulin resistance and obesity. Further, it appears that gut microflora changes during pregnancy, and this may be related to the insulin resistance of the third trimester. There is some tantalising evidence about the role of probiotics in the prevention of gestational diabetes. An update on the progress of the SPRING trial, and the follow up study proposal will be provided.

#010

AN ANALYSIS OF PREVALENCE, MATERNAL CLINICAL CHARACTERISTICS AND PREGNANCY OUTCOMES ASSOCIATED WITH EARLY VERSUS LATE DIAGNOSIS OF GESTATIONAL DIABETES COMPARED TO WOMEN WITH PRE-EXISTING DIABETES

Arianne N Sweeting[1] , Maria Constantino[1] , Lynda Molyneaux[1 2] , Jencia Wong[1 2] , Glynis Ross[1]

1. ***Royal Prince Alfred Hospital, Diabetes Centre, Sydney, Australia***
2. ***Discipline of Medicine, University of Sydney, Sydney, Australia***

Background: Gestational diabetes (GDM) is an increasingly common complication of pregnancy associated with significant maternal& neonatal morbidity. Studies have shown that these adverse pregnancy outcomes are improved by screening & intervention after 24 weeks' gestation. Evidence is lacking for the benefit of screening & intervention before 24 weeks' gestation despite reported prevalence rates of early GDM diagnosis between 29-66% in some studies. We hypothesise that early screening & intervention could identify & potentially improve the outcomes of a substantial number of women.

Aim: Determine the prevalence, clinical characteristics & pregnancy outcomes of GDM diagnosed before & after 24 weeks' gestation & in comparison to women with pre-existing diabetes mellitus(DM).

Methods: The demographic & clinical profiles of 4941 women in our Diabetes in Pregnancy database collected over two decades were reviewed & stratified by timing of GDM diagnosis (<12, 12-24 & >24 weeks' gestation) with data presented as descriptive statistics.

Results: Overall there were 267 women with pre-existing DM & 4674 with GDM. Amongst those with GDM, 28.7% (n=1343) were diagnosed <24 weeks' gestation (1.3% <12 & 27.4% 12-24 weeks' gestation respectively). Mean maternal age, body mass index & parity were similar in those with early GDM diagnosis & type 2 DM. Early GDM diagnosis was associated with greater insulin requirement (73.3%, 58.2% & 42.0% for <12, 12-24 & >24 weeks' gestation respectively, $p<0.0001$) & maximum mean total daily insulin dose (42, 32 & 20Units for <12, 12-24 & >24 weeks' gestation respectively, $p<0.0001$). Both early GDM diagnosis & pre-existing DM were associated with increased risk of pre-term delivery, obstetric intervention, macrosomia & neonatal hyperbilirubinaemia compared to GDM diagnosed >24 weeks' gestation ($p<0.0001$).

Conclusion: The prevalence of GDM diagnosed prior to 24 weeks' gestation in our cohort was significant. Despite early intensive intervention, early GDM diagnosis was associated with a greater risk of adverse pregnancy outcomes comparable to those seen in women with pre-existing DM, indicating a high risk cohort who require intensive surveillance from early in pregnancy.

#011

A COMPARISON OF MATERNAL CHARACTERISTICS AND PREGNANCY OUTCOMES IN WOMEN WITH TYPE 1 AND TYPE 2 DIABETES MANAGED AT THE ROYAL WOMEN'S HOSPITAL 2009-2013

Stephanie Hopkins[1 2] , Callum Umstad[1 3] , Ben Chen[4] , Jennifer Conn[1 3 4] , Alison Nankervis[1 3 4]

1. ***Royal Women's Hospital, Melbourne***
2. ***University of Newcastle, Newcastle, NSW***
3. ***University of Melbourne, Melbourne***
4. ***Royal Melbourne Hospital, Melbourne***

Background and introduction: A decade ago women with type 2 diabetes mellitus (T2DM) comprised approximately 10% of all pregnancies in women with pre-existing DM at The Royal Women's Hospital (RWH), Melbourne. However, with the increasing prevalence of T2DM, its diagnosis in increasingly younger women, and with women deferring childbearing, the proportion of women with T2DM being managed at RWH has risen to approximately 50%.

Aims: We therefore aimed to examine and compare the pregnancy outcomes in women with type 1 diabetes (T1DM) and T2DM managed and delivered at the RWH over the past 5 years.
Methods: This is a retrospective examination of 343 women. Data were extracted from the RWH diabetes database, where detailed information is available on maternal characteristics, pregnancy course, delivery details and neonatal outcomes. These data were analysed for statistical significance using the Chi-squared test for categorical variables, independent two-sample tests for normally distributed variables and the Wilcoxon-Mann-Whitney test in all other cases.
Results: Type 1 DM (n = 166) and type 2 DM (n = 177) women differed in terms of weight, duration of diabetes, medications and complication status. Glycaemic targets were more readily met in T2DM. Twenty seven (16%) T1DM women developed pre-eclampsia compared with 15 (9%) in T2DM, but more type 2 women developed pregnancy-induced hypertension. Women with T2DM were more likely to deliver vaginally. Eighty nine (54%) babies of T1DM mothers were admitted to SCN or NICU, compared to 67 (37%) babies of T2DM mothers. Babies of mothers with T1DM also had a greater risk of hypoglycaemia (p = 0.036) and had a higher birthweight (p = 0.007) compared to babies of T2DM mothers. Fetal deaths occurred in 1 woman with T1DM and in 3 women with T2DM.
Conclusion: Maternal characteristics, pregnancy course, delivery details and neonatal outcomes differed between women with type 1 and type 2 diabetes.

#012

ASSESSMENT OF PREGNANCY OUTCOMES ACCORDING TO THE AMOUNT OF GESTATIONAL WEIGHT GAIN IN WOMEN WITH GESTATIONAL DIABETES MELLITUS.

Tang Wong , Robyn Barnes , Glynis P Ross , Jeff R Flack
Department of Diabetes and Endocrinology, Bankstown-Lidcombe Hospital, Sydney, NSW, Australia

Background: We published data indicating gestational weight gain(GWG) is a predictor of large and small for gestational age birthweight(LGA, SGA) in offspring of women with gestational diabetes mellitus(GDM)(1). A recent publication suggests excessive GWG increases LGA and macrosomia(>4kg) risk(2).
Aims: To explore effects of GWG on pregnancy outcomes in a multi-ethnic group of GDM women. Methods: We analysed de-identified prospectively collected data(1993-2013), from women diagnosed by ADIPS(1998) criteria, comparing those with complete data including; pre-pregnancy BMI (based on self-reported weight), last clinic weight recorded <4 weeks pre-delivery, treatment modality and birth outcomes. We assessed GWG compared to Institute of Medicine(IOM) recommendations as <IOM, =IOM or >IOM across 4 BMI Categories: Underweight (BMI<18.5kg/m2); Healthy Weight (BMI ≥18.5≤24.9kg/m2); Overweight (BMI ≥25≤29.9kg/m2); Obese (BMI ≥30kg/m2). We thence assessed 5 outcomes: percent insulin use, caesarean delivery, SGA, LGA, plus 6-8 week post-partum oGTT data where available. Birthweights were categorized SGA(< 10th percentile) and LGA(> 90th percentile) using the website www.gestation.net (3). Chi-squared analyses were undertaken and odds ratios calculated; statistical significance p<0.05. ,>
Results: There were 3178 records, with post-partum oGTT data available for 1891(59.5%). Figure1 graphs show increasing trends for insulin therapy, caesarean delivery and LGA, and a decreasing trend for SGA, with increasing GWG. There is no significant relationship with post-partum oGTT abnormality. We found a highly significant increase in macrosomia (>4kg) of 16.4%(>IOM women) versus 6.5%(=IOM)(p<0.0001), and for >4.5kg of 2.6% versus 0.7% respectively (p=0.0005). Table 1 shows the odds ratio calculations for the outcomes assessed for those with >IOM GWG versus those who achieved recommended weight gain (=IOM). Figure 1

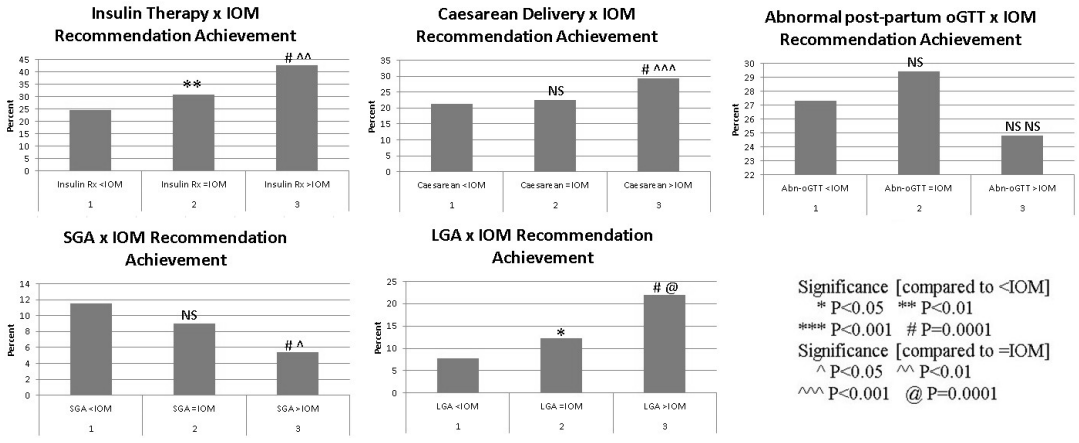


Table 1	Insulin Use	Caesarean Delivery	SGA	LGA	Abnormal post-partum OGTT
Odds Ratio for GWG >IOM vs =IOM	1.42 (1.17-1.72)	1.67 (1.41-2.00)	0.58 (0.42-0.81)	2.02 (1.60-2.55)	N/A
p-value	<0.001	<0.001	<0.02	<0.001	NS

Conclusions: In this multi-ethnic cohort, increasing GWG had significant effects on four of five outcomes assessed, most notably on LGA. Management of diabetes in pregnancy needs to not only focus on glucose parameters but also on gestational weight gain.

Acknowledgements: We wish to thank all the Diabetes Educators who have collected data and maintained the database and Professor Jason Gardosi for permission to use his bulk centile calculator.

1. Predictors of large and small for gestational age birthweight in offspring of women with gestational diabetes mellitus. R. A. Barnes, N. Edghill, J. Mackenzie, G. Holters, G. P. Ross, B. B. Jalaludin, and J. R. Flack. Diabet. Med. 30, 1040–1046 (2013). DOI: 10.1111/dme.12207.
2. ATLANTIC-DIP: excessive gestational weight gain and pregnancy outcomes in women with gestational or pregestational diabetes mellitus. Egan AM1, Dennedy MC, Al-Ramli W, Heerey A, Avalos G, Dunne F. J Clin Endocrinol Metab. 2014 Jan;99(1):212-9. doi: 10.1210/jc.2013-2684. Epub 2013 Dec 20.
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#013

IS AN ABNORMAL POSTNATAL GLUCOSE TOLERANCE TEST ASSOCIATED WITH ADVERSE PREGNANCY OUTCOMES?

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Aim: To compare pregnancy outcomes in women with normal and abnormal postnatal glucose tolerance.

Methods: This is a retrospective cohort study of 919 women who attended the Royal Women's Hospital, Melbourne and were diagnosed with gestational diabetes (GDM). Diagnosis was made on either a fasting glucose ≥5.5mmol/L, or a 2-hour glucose ≥8.0 for women having a 75g fasting glucose tolerance test (GTT); or a 1-hour glucose challenge test ≥12.0mmol/L. Of the 919 patients, 524 (57%) had a postnatal GTT (PNGTT). The PNGTT results were classified into normal (n=480) or abnormal (n=44, 8.4%) group with fasting PNGTT results ≥5.5 or 2-hour ≥7.8mmol/L. Potential predictive and confounding factors were compared between the groups. The Chi-squared test was performed to compare categorical variables. For normally distributed variables, an independent two-sample test was used. Otherwise, the Mann-Whitney test was performed.

Results: The abnormal group returned higher fasting and 2-hour GTT results in pregnancy. Median fasting values were higher by 0.5mmol/L [95% CI: (0.2, 0.7)] and 2-hour values higher by 1.1mmol/L [95% CI: (0.5, 1.6)]. 2-hour GTT values between pregnancy and PNGTT showed a difference of 3.7mmol/L (9.0 vs 5.3mmol/L) in the normal group and 1.0mmol/L in the abnormal group (10.3 vs 9.3mmol/L). The last HbA1c prior to delivery was also lower in the normal group by 0.4% [95% CI: (0.2, 0.6)]. The unplanned caesarean section rate was 73% higher in the abnormal group [95% CI: (1.1, 2.7)]. There were no significant differences in other measures of perinatal outcomes, including age, gestation, birth weight, neonatal admissions and other methods of delivery.

Conclusion: There was no difference in the incidence of adverse perinatal outcomes in women returning an abnormally high PNGTT compared to those with a normal result. Higher pregnancy glucose tolerance test results and HbA1c are correlated with abnormal postnatal results.

#014

FRUCTOSE AND DIABETES: THE FACTS

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The prevalence of overweight/obesity continues to rise around the globe, and rates of type 2 and gestational diabetes are rising concomitantly. Excess consumption of fructose has been hypothesised to be an underlying cause of the problem. A systematic review of clinical/randomised controlled trials in humans, and meta-analyses thereof, was undertaken to examine the effects of fructose on health. There are no significant effects of consuming ≤100 g fructose/d on body weight in adults, but consuming >100 g of added fructose/d may lead to modest (0.44 kg/wk) weight gain (1;2). Consuming 10 g fructose/d may lead to an average 5.7% improvement in HbA1c in people with diabetes (1) and consuming "catalytic" doses (≤ 36 g/d) may lead to a significant improvement in HbA1c (-0.40%) without adversely affecting fasting insulin, uric acid or triglycerides (3). Isocaloric exchange of fructose for other carbohydrates may significantly decrease diastolic (-1.54) and mean arterial pressure (-1.16) but does not effect systolic blood pressure (-1.10) (4). Consuming ≥100 g of fructose/d significantly increases fasting triglycerides and >50 g a day increases postprandial triglycerides (1) and consuming >60 g of fructose/d raises triglycerides in people with type 2 diabetes (5). Isocaloric exchange of fructose for other carbohydrates does not affect serum uric acid levels in people with diabetes or those without the condition (average difference = 0.56 mmol/L) (6). However, excessive amounts (+35% energy) at extreme doses (213–219 g/d) significantly increase serum uric acid levels compared to other carbohydrates (6). In conclusion, "catalytic" doses of added fructose (<50 g/d) may improve HbA1c and blood pressure, but moderately high (>50 but ≤100 g) amounts may have an adverse effect on postprandial triglycerides and large amounts (>100 g) on top of regular food intake will contribute to weight gain, fasting triglyceridaemia and uricaemia.

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#015

EVOLUTION, EPIGENETICS AND PREGNANCY: A TANGLED PATH TO DIABETES AND OBESITY

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There is considerable evidence showing that the fetus and neonate are affected by its maternal environment and attention has focused on the longer-term metabolic consequences including obesity and the implications for non-communicable disease (NCD). Yet while the experimental, clinical and epidemiological evidence for causal relationships is overwhelming there has been very limited impact on public health and developmental factors have received little consideration in global NCD prevention strategies. Part of the problem has been a lack of recognition that there are multiple pathways linking early life exposures to later disease risk. It is important to distinguish severe intrauterine exposures with teratogenic or immediate fetal consequences (that may be adaptive) from those occurring within the normative range of exposures from those that reflect evolutionarily novel environments such as gestational diabetes, maternal obesity and formula feeding. But there is now compelling clinical evidence supported by mechanistic (epigenetic) observations to show that human development can be affected by normative exposures including variation in maternal nutrition. These processes of developmental plasticity are evolutionarily conserved and evolved because they had advantage in terms of increasing reproductive fitness within the predicted but somewhat variable environment. However in the mismatch of modern postnatal environments that make prenatal predictions more unreliable, these mechanisms can manifest later in life as an increased risk of disease. Less is known about the potential for paternal influences via epigenetic mechanisms. A deeper issue is how important are these developmental pathways to the modern context of the NCD epidemic. Epigenetic analyses suggest that developmental pathways play a far more important role than is generally considered and greater than that of fixed genomic variation. There is also the potential for epigenetic marks to persist over multiple generations and increasing evidence for paternally transmitted epigenetic effects. Maternal obesity and GDM also lead to adiposity and greater diabetes risk in the offspring but the mechanisms involved are likely fetal responses to evolutionarily novel contexts. Such evidence is increasing attention to the potential role of obstetrics in the primary prevention of NCDs

#016

PREGNANCY AND HYPERPARATHYROIDISM

Aidan McElduff

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Parathyroid hormone, released from the parathyroid glands, controls the levels of calcium and phosphate in the blood. Hyperparathyroidism is overactivity of the parathyroid glands resulting in excess production of parathyroid hormone (PTH). The kidney, the gut and bone acting in part through vitamin D, mediate the action of PTH to raise serum calcium.

Excessive PTH secretion may be due to

a. Primary hyperparathyroidism: an adenoma, hyperplasia or, rarely, carcinoma of the parathyroid glands resulting in hyperfunction of the parathyroid glands with oversecretion of PTH. Can be familial. This usually results in hypercalcaemia.

b. Secondary hyperparathyroidism is due to physiological (i.e. appropriate) secretion of parathyroid hormone (PTH) by the parathyroid glands in response to hypocalcaemia (low blood calcium levels) or a tendency to hypocalcaemia. The most common causes are vitamin D deficiency, chronic renal failure and malabsorption.

c. Tertiary hyperparathyroidism is seen in patients with long-term secondary hyperparathyroidism and the development of parathyroid autonomy.

Familial hypocalciuric hypercalcaemia can mimic hyperparathyroidism. Primary and secondary hyperparathyroidism can coexist.

The normal physiological changes in pregnancy result in lower uncorrected serum calcium levels because of the fall in albumin concentration. Corrected and ionised calcium levels are normal. PTH concentrations are lower and 1, 25 dihydroxyvitamin higher. 25 hydroxy vitamin D concentrations are unchanged. Urine calcium excretion is increased.

Primary hyperparathyroidism in pregnancy is said to be uncommon (8/100,000 women of reproductive age). Hypercalcaemia will most likely be diagnosed incidentally as most cases are asymptomatic or have non-specific symptoms. Maternal and fetal complications are said to be very high but this may be reporting bias. Secondary hyperparathyroidism is common. Cases will be presented.

#017

CONGENITAL ADRENAL HYPERPLASIA AND PREGNANCY

David Cole

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Classic CAH (homozygous 21-hydroxylase deficiency) is an autosomal recessive condition with a prevalence of 1:16,000. For parents the virilisation of affected offspring can be devastating; metabolic effects can be life threatening. In New Zealand, as in many other countries, all newborns undergo biochemical screening to aid prompt diagnosis. At present this is not routine in Australia.

Prenatal diagnosis is usually considered when a fetus is known to be at risk because of an affected sibling or both parents are known to be at least heterozygous. Up to 95% of CYP21A2 mutations can be identified. Prenatal treatment by maternal dexamethasone early in pregnancy reduces the virilisation of affected females. Conventional methodology means all those potentially affected have to be treated prior to genetic confirmation, with only 1 in 8 actually benefiting. Recent advances in noninvasive prenatal genetic diagnostics may enable earlier diagnosis and thus treatment to be directed at affected female fetuses only. Long term safety of prenatal treatment has not been proven and dexamethasone can have significant adverse maternal consequences. These concerns have contributed to the debate about best practice.

Affected couples should be offered genetic and prepregnancy counselling. Fertility in both homozygous females and males may be reduced. Women often develop a secondary polycystic ovarian syndrome. Following ovulation excessive adrenal derived progesterone can create a functional luteal phase, contributing to impaired fertility. Women may be dissuaded from attempting pregnancy for many reasons, including vaginal stenosis and dyspareunia. Long term management of CAH is often suboptimal, and prepregnancy counselling/pregnancy an opportunity to review this.

#018

THYROID CASES

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Management of thyroid conditions are complex at the best of times. When a woman with a thyroid condition is pregnant there is another consideration, the fetus. In this presentation we will explore some difficult cases where the fetal wellbeing can be adversely affected by the maternal thyroid condition and strategies to improve the outcome for both the woman and baby.

#019

HEADACHE, HORMONES AND HEALTH

Rosamund Hill

Australia

1 in 5 women have migraine. It is a common, often disabling, and chronic condition that touches many of us personally and professionally. How is it defined? What is the current understanding of the pathophysiology? And how do we best manage it in women?

#020

OF FITS, FOETUSES AND FERTILITY: ISSUES FOR WOMEN WITH EPILEPSY

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Women who suffer from chronic diseases such as epilepsy want to have normal babies and reliable contraception. Often the medical practitioner has insufficient data to be able to inform patients of potential risks. Drug trials understandably exclude the participation of pregnant women. Thus for those women who need to take ongoing potentially lifesaving medications, the only way to accurately discover potential risks is to establish ongoing prospective Pregnancy Registers.

The Australian Pregnancy Register for Women on Anti-epileptic Medication (APR) began collecting data in 1999 and is ongoing. Funding such a project remains difficult but the information obtained is invaluable. The prescribing of anti-epileptic drugs (AEDS) for women with epilepsy has changed directly as a result of the APR's more than 25 publications. The most notable of these changes is the reduction in frequency and dose of sodium valproate, a valuable anti-epileptic drug yet one that is now documented to be associated with significant dose related teratogenicity.

The Register currently holds data on more than 2000 pregnancies. This is estimated to be about 1 in 12 of all possible cases of Australian women who have epilepsy and pregnancy during this time period of 15 years. The APR is unique in that it collects data on a small internal control group of pregnant women with epilepsy who did not take AEDS.

This presentation will give an overview of the information gained from the APR, will discuss current concerns with the 'new' AEDs, and will discuss practical management of epilepsy during preconception, pregnancy and the puerperium including breastfeeding. There will also be a brief reference to contraceptive issues relevant to women with epilepsy.

#021

LATE GESTATION ANTIDEPRESSANT USE IS ASSOCIATED WITH AN INCREASED RISK OF POSTPARTUM HAEMORRHAGE

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Objective: To determine whether use of antidepressants near to delivery is associated with postpartum haemorrhage (PPH).

Methods: A retrospective cohort study was conducted using linked records from the Women's and Children's Health Network (WCHN) in South Australia, Australia. This included electronic data from the Women's and Children's Hospital (WCH) Perinatal Statistics Collection and the WCH Hospital Pharmacy Dispensing Records. We investigated outcomes among all women who gave birth between January 2002

and December 2008 (N=30,198). PPH was defined as a recorded blood loss of ≥500mL for vaginal deliveries and ≥1000mL for caesarean sections. In later sensitivity analyses we restricted the outcome to those with severe PPH, classified as a blood loss ≥1000mL. Multivariate generalized linear regression models were used to calculate Prevalence Ratios (PRs) and 95% confidence intervals (CIs), adjusting for potential confounders.

Results: Five hundred and eight women (1.8%) were taking an antidepressant in late gestation (exposed), 1,292 received no dispensing for an antidepressant but had a reported psychiatric illness (untreated psychiatric illness), and 28,348 received no dispensing for an antidepressant and had no reported psychiatric illness (unexposed). Compared to unexposed controls, women exposed to antidepressants had an increased risk of PPH (aPR 1.44; 95% confidence interval 1.21, 1.71), whereas no increased risk was observed for women with untreated psychiatric illness (aPR 1.04; 0.90, 1.20). When restricted to women with severe PPH, antidepressant exposure was associated with an increased risk (aPR 1.79; 1.36, 2.36), but not untreated psychiatric illness (aPR 1.08; 0.84, 1.39).

Conclusion: Exposure to antidepressants in late gestation was associated with a significantly increased risk of PPH. While potential confounding by unmeasured factors cannot be ruled out, these findings suggest a direct effect of antidepressant exposure on PPH. This effect could be mediated through the impact of antidepressants on serotonin, which is involved in platelet aggregation and clotting.

#022

INTRAVENOUS IRON USE DURING PREGNANCY: COMPARISON OF FERRIC CARBOXYMALTOSE AND IRON SUCROSE

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5. ***Women's and Children's Health, University of New South Wales, Royal Hospital for Women, Sydney, NSW, Australia***

Aims:

To compare the effectiveness and tolerability of the contemporary formulations iron sucrose (FeS) and ferric carboxymaltose (FCM) in pregnant patients with iron deficiency anaemia (IDA).

Methods:

Retrospective audit of all pregnant women receiving intravenous FeS or FCM at an Australian tertiary maternity hospital January 2007-July 2013. Data collected were demographics, maternal history, haematological details, infusion details including adverse events, and pregnancy outcome.

Results:

A total of 94 infusions (38 FeS infused over 4 hours in Acute Care, 56 FCM infused over less than 2 hours in Day Stay) were administered. There were no significant demographic differences between groups with average maternal age 30.4 vs. 31.6 years, 37% vs 44% nulliparous and average gestation at first infusion 32.0 vs. 33.2 weeks for FCM and FeS respectively. Pre-infusion Hb and ferritin were 98.2g/L ± 12.0g/L and 7.2µg/L ± 2.5µg/L (FeS) vs. 95.7g/L ± 17.9g/L and 10µg/L ± 6.8µg/L (FCM). For all first infusions, FCM had a lower risk of minor adverse events (16% vs. 34%, p = 0.049). No unplanned admission secondary to adverse events occurred in either group. Post infusion, both groups had significantly greater haemoglobin (14.6g/L improvement FCM and 8.9g/L FeS, p<0.001), MCV (2.32fL improvement FCM vs 1.18fL FeS, p < 0.001) and Ferritin (295.8µg/L improvement FCM vs 104.8µg/L FeS, p <0.001) with Ferritin levels showing greater improvement in FCM (p=0.002). Maternal outcomes were similar regarding postnatal length of stay, mode of birth, and rate of post-partum haemorrhage.

Conclusion:

Ferric carboxymaltose administered in pregnancy had a lower risk of infusion-related adverse events and superior haematological efficacy compared to iron sucrose. Pregnancy outcomes were similar. Given the favourable safety and haematological profile, ease of administration of FCM, and decreased monitoring/infusion time compared to iron sucrose it is likely to be the preferred IV formulation for IDA treatment in pregnancy.

#023

WEIGHT AND HEIGHT MEASUREMENT: POTENTIAL IMPACT IN OBSTETRIC CARE

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Aim: To assess the accuracy of reported weight and height in a pregnant population. *Methods:* Participants were recruited when attending their nuchal translucency scan if they attended with an 'Antenatal screening for Down syndrome and other conditions' laboratory form (used for the maternal serum screening in the first trimester (MSS1) blood test) that had weight and/or height recorded. Participants' weight and height were measured by trained recruitment centre staff and Body Mass Index (BMI) was calculated. Differences in reported (MSS1) and measured weight, height and BMI were analysed using Bland-Altman Plots. *Results:* 248 women participated. Only 23% (n=56) of participants had a weight recorded on the MSS1 laboratory form that was within +/- 0.5 kg of measured weight: 62% (n=155) had an under-reported weight, and 15% (n=37) an over-reported weight. 30% (n=74) of participants had a correctly reported height: 26% (n=63) an under-reported height, and 44% (n=107) an over-reported height. 6% (n=14) of participants had a correctly reported BMI: 69% (n=166) had an under-reported BMI, and 25% (n=60) an over-reported BMI. 17% of

participants (n=40) were incorrectly classified by BMI category based on MSS1 data. *Conclusion:* Our study suggests that there are considerable inaccuracies in the recording of weight and height during pregnancy in New Zealand. This results in a false reduction in BMI in many women which can affect clinical care.

#024

TREATMENT OF HIGH BLOOD PRESSURE DURING PREGNANCY: BELIEFS, EXPERIENCES, ATTITUDES AND BEHAVIOURS OF PREGNANT WOMEN

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Background:

Hypertensive disorders are a leading contributor to maternal morbidity and mortality complicating approximately 10% of all pregnancies in Australia. Adherence to antihypertensive medication among Australians is known to be poor. This study aimed to assess adherence to antihypertensive medication by pregnant women with hypertension and to understand the reasons behind adherence or lack thereof.

Method:

100 women with a documented history of hypertension during their current pregnancy were prospectively recruited through two Victorian maternity hospitals over a 10 month period in 2013. A 23-item questionnaire, which incorporated an adherence scale, was administered to all participants. A subset was also interviewed in depth and the resulting data were analysed using the framework approach. [1]

Results:

Participants [mean age 33 (±4.9) years; mean gestation 29 (±7) weeks] had a mean (range) blood pressure (BP) of 135/85 (105/60 – 180/130) mmHg. Sixty-five women had pre-existing hypertension, of whom 13 were diagnosed before 20 weeks gestation. Thirty-five women had pregnancy-induced hypertension. Thirty-nine per cent thought that their BP was well controlled, while 28% felt that it was somewhat controlled. Adherence scores varied from 13 to 4; 92% of participants had a score >4 suggesting sub-optimal adherence. There were no significant differences in adherence scores between participants with pre-existing hypertension and their counterparts. Major themes that arose from the interviews included risk vs benefit, trust in the treating doctor and sources of information in addition to that provided by the treating health professional(s). The major reasons for suboptimal adherence were lack of comprehension of the seriousness of the condition, adverse effects and forgetting to take the dose.

Conclusions:

The questionnaire showed suboptimal adherence to be the norm among pregnant women with hypertension. Understanding of the reasons behind this will inform the design of interventions for optimising adherence to antihypertensives, which could in turn lead to better maternal and fetal outcomes.

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#025

MULTIPLE SCLEROSIS

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Multiple sclerosis (MS) is an inflammatory condition of the central nervous system primarily affecting women and often beginning within childbearing years. It is characterised by unheralded episodes of neurological dysfunction that recover over time (relapsing-remitting) or progressive disability all of which may have a significant impact upon childbearing and childrearing. In addition increased use of potent immunosuppressant treatments early in the disease means women with MS who are contemplating a pregnancy often require specialist advice and management.

This talk aims to cover a number of issues facing women with MS and will include topics such as pre-conception counselling, the impact of MS on fertility, and the use of disease modifying agents and other MS medications during pregnancy. We will discuss the risk and management of relapses during pregnancy and in the post-partum period and answer frequently asked questions such as MS risk in offspring, management of fatigue and MS and disability.

#026

STROKE CASES

Lucille Wilkinson

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Stroke in pregnancy is a rare but always very concerning clinical situation. As with all strokes, there are both ischaemic and haemorraghic aetiologies, with acute imaging being vital to direct initial management. Pregnant women with ischaemic stroke may be more likely to have large vessel thromboembolism as an underlying cause and venous thrombosis should always be considered. Haemorrhagic stroke can be due to an underlying vascular abnormality or due to hypertensive disorders of pregnancy.

This session will take a case-based approach to discussing stroke – outlining imaging and investigation options along with proposed management. The cases presented will include diagnostic and management dilemmas!!

#027

HEALTH CONSEQUENCES FOR CHILDREN OF EXPOSURE TO ENDOCRINE DISRUPTING CHEMICALS IN THE HOME

Peter Sly

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There is increasing concern that early-life exposure to endocrine disrupting chemicals (EDCs) contributor to the increasing rates of non-communicable diseases, especially obesity and type 2 diabetes. Activation of oestrogen receptors is the most commonly cited example of EDC-mediated disruption of the endocrine system. However, EDCs may also disrupt the endocrine system through binding to other receptors, as well as altering the synthesis, metabolism and excretion of natural hormones. While the endocrine system can be described as having a functional role in adults, regulating homeostasis, in children the endocrine system also has an organisation role, regulating normal organ development and maturation. Disruption to the endocrine system during childhood can therefore lead to irreversible adverse health effects. Like natural hormones, EDCs can exert their influence at low concentrations. The biological response provoked by exposure to a specific EDC does not necessarily increase linearly with increasing concentrations, an association that is described as a non-monotonic dose response curve (NMDRC). Because of these properties, an absence of health effects at one given level of exposure does not imply an absence of health risk at a lower level of exposure. Conclusions on health risk based on high dose animal toxicology studies may not be relevant to the lower but ubiquitous exposure patterns encountered by human populations. The effects of low-dose EDC exposure on human health is therefore a difficult area to study and the question of whether a safe level of exposure to EDCs can be established is a contentious one.

Exposure of children to EDCs is largely attributable to the presence of EDCs in the home environment, where young children spend much of their time. EDCs are present in a wide array of consumer goods and items in the home, including food, and are also found in breast milk. EDCs can also spread into dust and air. Although many chemicals used in the household environment have endocrine disrupting properties, potentially the most important that are found frequently in household goods and products include the plasticisers bisphenol A (BPA) and phthalates, polybrominated diphenyl ether (PBDE) flame retardants and insecticides, including organophosphates and pyrethroids.

The developmental physiology of children, including their anabolic state and larger surface area to body weight ratio, meant that children are likely to receive a higher dose of EDCs in any given environment. In addition, children have unique exposure pathways and interact with their environment differently; again increasing their exposure to environmental toxicants.

This presentation will discuss likely exposure sources for children to EDCs in the home environment and the health consequences of such exposures. BPA will be used as an example to highlight these issues.

#028

WHEN TO DELIVER?

Jonathan Morris

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Consideration around the timing of delivery in pregnancies in which the mother has diabetes is an important aspect of management. Fundamentally this is influenced by factors such as whether labour is appropriate and whether there are any additional maternal or fetal considerations, which would influence the mode and timing of birth. This presentation will review the evidence that inform practice about timing of birth and the emerging evidence about the association of late preterm birth and educational outcomes.

#029

IMPAIRED GLUCOSE TOLERANCE IN PREGNANCY REDUCES NEPHRON ENDOWMENT IN OFFSPRING

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Aim: To assess, using a mouse model, the effect of impaired glucose tolerance (IGT) in pregnancy on offspring kidney development.

Background: The prevalence of IGT in pregnancy is increasing worldwide. Screening for gestational diabetes typically occurs at 26-28 weeks gestation, yet a number of women may have unrecognised IGT prior to conception. Maternal hyperglycemia is known to have short- and long-term health implications for offspring, with animal studies reporting a nephron deficit in offspring exposed to maternal diabetes. Current literature is, however, limited to models of persistent severe hyperglycaemia which do not reflect the typical clinical condition, and which are associated with fetal growth restriction that may confound nephron endowment. The leptin receptor deficient mouse ($Lepr^{db}$/+) is an alternative model of maternal IGT. Compared to wildtype (+/+), $Lepr^{db}$/+ dams exhibit hyperphagia, increased weight gain and moderately elevated glucose levels before and during pregnancy, in the absence of offspring growth restriction.

Methods: To determine the effect of IGT on offspring kidney development, nephron endowment was assessed in offspring of C57BKS/KSJ $Lepr^{db}$/+ and +/+ mice at embryonic day (E)18 and postnatal day (PN)21 using unbiased stereological techniques.

Results: $Lepr^{db}$/+ dams had a 20-35% increase in blood glucose levels during a glucose tolerance test prior to pregnancy (p<0.0001) and at E17.5 (p<0.0001). Compared to offspring of +/+, offspring of IGT $Lepr^{db}$/+ dams had approximately 15% fewer nephrons at both E18.5 (p<0.0001) and PN21 (p<0.0001). There was no difference in offspring bodyweight at E18.5 or PN21.

Conclusions: This is the first study to assess kidney development in offspring exposed to maternal IGT. We show that relatively subtle alterations in glucose handling throughout gestation can have a detrimental effect on kidney development, leading to a nephron deficit that is established early in renal development. This highlights the importance of recognising IGT in early pregnancy. Further studies are required to assess the long term consequences of exposure to maternal IGT on renal function and morphology.

#030

MANAGEMENT OF GESTATIONAL DIABETES IN A RESOURCE LIMITED SETTING IN INDIA

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Introduction: India has the second largest population of diabetes in the world and the burden of gestational diabetes mellitus(GDM) is enormous.There is a huge financial cost of monitoring and management of gestational diabetes with regards to established guidelines.

Methods:We designed a cost effected minimalistic but safe model of gestational diabetes management which can be implemented in resource limited settings and even in remote areas. Medical nutrition therapy was advised for one week after diagnosis of GDM. Patients were provided with free glucometers and were asked to self monitor blood glucose(SMBG) levels- fasting(FBG) and two hour post prandial (breakfast, lunch and dinner) once every week.The patient or a family member was requested to visit the clinic every two weeks or to report over phone/online and visit clinic atleast monthly with SMBG records. Treatment targets were: fasting glucose of 95mg/dl and 2 hour postprandial glucose less than 120mg/dl. Regular or NPH human insulin was started according to prevailing SMBG reports if diet alone did not achieve control. 70 uncomplicated GDM patients were followed up till delivery and pregnancy outcomes were compared with 35 healthy pregnant controls.

Results: Adherance to our protocol was 98.6%. 20% were contolled on diet only. 90% of GDM patients achieved target FBG without NPH insulin. Most patients required 2 doses of regular insulin- before breakfast and dinner.No case of macrosomia, perinatal death, birth injury, congenital malformations and shoulder dystocia were recorded.

Conclusion: It is difficult to implement standard Western GDM guidelines in resource limited and remote areas, specially in developing countries. But excellent maternal and neonatal outcomes are possible with reasonable basic care in GDM if implemented properly. Compliance is generally good in GDM.

#031

ETHNIC DIFFERENCES IN THE AMOUNT OF GESTATIONAL WEIGHT GAIN IN WOMEN WITH GESTATIONAL DIABETES MELLITUS

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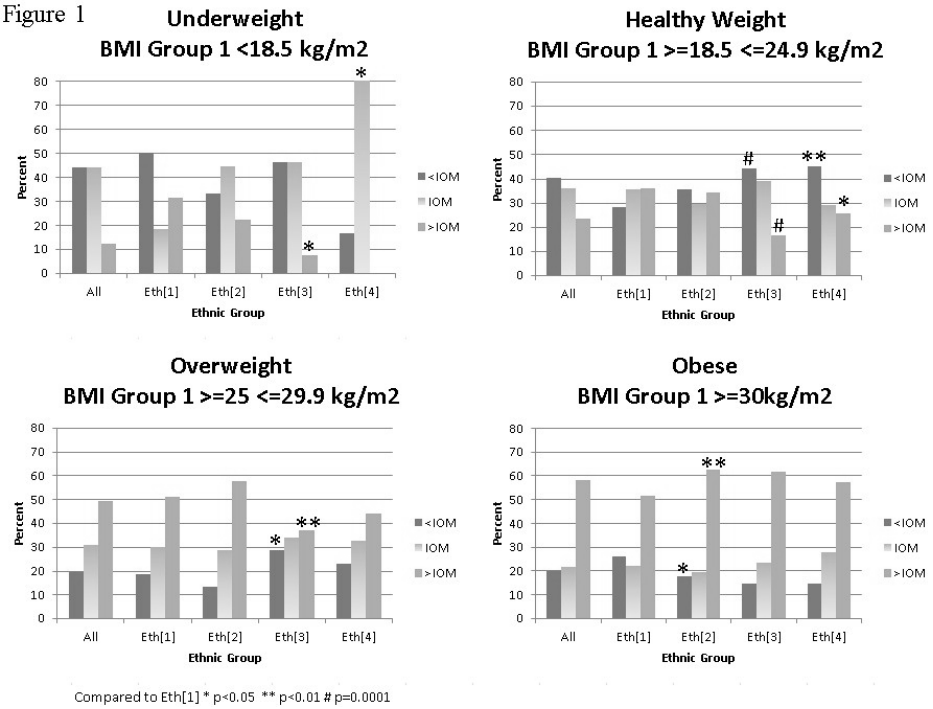
Background: The 2009 Institute of Medicine(IOM) revised guidelines for pregnancy weight gain(1), cited in the 2013 RANZCOG position statement on obesity management in pregnancy(2), recommend optimal gestational weight gain(GWG) ranges according to maternal BMI.

Aim: To compare by ethnicity the amount of GWG occurring in GDM women.

Methods: We analysed de-identified prospectively collected data for GDM women diagnosed by ADIPS(1998) criteria(3) from 1993-2013, comparing those with complete data including; ethnicity, pre-pregnancy BMI (based on self-reported weight), and a last clinic weight recorded <4 weeks pre-delivery. We compared total gestational weight gain in 3 groupings: (<IOM, =IOM and >IOM recommendation), in the four largest ethnic groups: (European[Eth1], Middle Eastern[Eth2], South-East Asian[Eth3] and South Asian[Eth4]), across 4 BMI Categories: Underweight(BMI<18.5kg/m2); Normal Weight(BMI ≥18.5≤24.9kg/m2); Overweight(BMI≥25≤29.9kg/m2); and Obese(BMI≥30kg/m2). Chi squared tests were undertaken; statistical significance p<0.05.

Results: There were 3179 records(All) meeting entry criteria: 123 Underweight(3.6%), 1462 Normal Weight(46.0%), 853 Overweight(26.8%) and 741 Obese(23.3%). Of these, 3017(94.9%) were in 4 Ethnic Categories: Eth[1](n=705); Eth[2](n=858); Eth[3](n=1101); Eth[4](n=353). Mean last clinic weight was 1.3±0.9 weeks before delivery. There was a significant difference in mean GWG between Eth[2] who gained most, 12.9±6.6kg and Eth[4] who gained least, 11.5±5.1kg(p<0.05). GWG by IOM recommendations, within BMI categories, are shown in Figure 1.

Figure 1



Amongst all GDM women, the percentage with GWG above IOM recommendations increases through the BMI categories. The patterns of insufficient and excessive GWG are more heterogeneous in underweight and normal BMI women, but become more homogeneous in overweight and obese women across the 4 ethnicities examined.

Conclusions: In this large multi-ethnic background cohort, patterns of GWG differed within different BMI category groups and differed by ethnic category. This may be the first report of ethnic specific weight gain in GDM in Australia. Future interventions could specifically target ethnic categories less likely to achieve recommended maternal weight gain.

Acknowledgement: We wish to thank all the Diabetes Educators who have collected data and maintained the database.

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#061

PREGNANCY OUTCOMES IN WOMEN WITH TYPE 2 DIABETES MELLITUS: A RETROSPECTIVE REVIEW

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Background: The prevalence of pre-gestational diabetes, mostly Type 2 Diabetes Mellitus (T2DM), is increasing, with implications for both maternal and infant health(1). We have previously described our experience in managing pregnant women with T2DM between 1994 and 2007(2).

Aim: To review 20 years experience with managing T2DM pregnancies.

Methods: Retrospective analysis comparing two time periods (1994-2007 and 2008-2014). We analysed prospectively collected data from a database of all pre-existing and gestational diabetes pregnancies. Chi-squared analyses were undertaken; statistical significance $p<0.05$.

Results: Of 4333 pregnancies managed, 190 were in 142 women with T2DM. Patients with missing data were excluded from analyses. Outcome data were available for 166 pregnancies (137 live births, 26 miscarriages; 3 stillbirths). Women in the 2008-2014 cohort(n=90) were of lower parity and were referred at an earlier gestation compared to the 1994-2007 cohort(n=100). There were no other statistically significant differences in maternal characteristics. The rate of neonatal hypoglycaemia was significantly lower in the latter cohort, and a significantly higher proportion of neonates were born with no complications (hypoglycaemia, jaundice, shoulder dystocia), (Table1). Overall, between 1994 and 2014, 29 pregnancies resulted in miscarriage/stillbirth. Aside from a higher HbA1c, there were no other statistically significant differences between this group of pregnancies and those resulting in a livebirth. Despite a higher pre-pregnancy Body Mass Index(BMI) (based on self-reported weight), mothers of small for gestational age(SGA) infants (n=7 5.4%) had lower total weight gain during pregnancy (Table2). There were 44(32.1%) large for gestational age births.

Table 1

Maternal characteristics	n=	1994-2007 (mean±SD)	2008-2014 (mean±SD)	p value=
Parity	86/79	2.2 ± 1.7	1.5 ± 1.2	0.003
Gestational Age at Referral(weeks)	84/87	13.149 ± 8.98	10.447 ± 5.30	0.019
Neonatal Outcomes		n= (%)	n= (%)	
Hypoglycaemia	61/59	19 (31.1)	4 (6.8)	0.001
No complications	61/59	33 (54.1)	47 (79.7)	0.004

Table 2

Baseline Characteristics	Live Births (n=120) (mean±SD)	Miscarriage/Stillbirths (n=23) (mean±SD)	p value=
HbA1c (%)	6.7 ± 1.6	8.4 ± 2.3	0.001
	Percentile >=10 (n=122) (mean±SD)	SGA (n=7) (mean±SD)	
Pre-pregnancy BMI(kg/m^2)	32.1 ± 6.6	39.1 ± 9.3	0.009
Total weight gain (kg)	13.7 ± 7.2	4.86 ± 8.1	0.002

Conclusions: The earlier gestation at referral is encouraging, as was the lower rate of neonatal hypoglycaemia and higher proportion of neonates born with no complications, implying improvement in antenatal diabetes management in the latter cohort. A higher HbA1c was associated with a higher risk of miscarriage and stillbirth.

Acknowledgement: We wish to thank all the Diabetes Educators who have collected data and maintained the database.

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#062

ETHNIC DIFFERENCES IN PREGNANCY OUTCOMES ACCORDING TO THE AMOUNT OF GESTATIONAL WEIGHT GAIN IN WOMEN WITH GESTATIONAL DIABETES MELLITUS

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Background: We published data indicating gestational weight gain(GWG) is a predictor of large and small for gestational age birthweight(LGA, SGA) in women with gestational diabetes mellitus(GDM)(1). The 2009 Institute of Medicine(IOM) guidelines stated ethnicity did not modify the association between GWG and birth outcomes(2).

Aim: To compare the incidence of pregnancy outcomes in GDM women from different ethnic backgrounds according to IOM(2009) weight gain recommendations.

Methods: We compared de-identified prospectively collected data(1993-2013), from women diagnosed by ADIPS(1998) criteria(3), in those with complete data including; ethnicity, pre-pregnancy BMI (based on self-reported weight), last clinic weight recorded <4 weeks pre-delivery, treatment modality and birth outcomes. We assessed GWG compared to IOM recommendations as <IOM, =IOM or >IOM across 4 BMI Categories: Underweight (BMI<18.5kg/m2); Healthy Weight (BMI ≥18.5≤24.9kg/m2); Overweight (BMI

≥25≤29.9kg/m2); Obese (BMI ≥30kg/m2). We thence assessed 5 outcomes: insulin use, caesarean delivery, SGA, LGA, plus 6-8 week post-partum oGTT data (where available), in the four largest ethnic groups (94.9% of our cohort): (European[Eth1], Middle Eastern[Eth2], South-East Asian[Eth3] and South Asian[Eth4]). Birthweights were categorized SGA(<10th percentile) and LGA(>90th percentile) using the website www.gestation.net (4). Chi-squared analyses were undertaken; statistical significance $p<0.05$.

Results: There were 3017 records: 122 Underweight(4.0%), 1423 Healthy Weight(47.2%), 803 Overweight(26.6%) and 669 Obese(22.2%) in the 4 ethnic categories: Eth[1](n=705); Eth[2](n=858); Eth[3](n=1101); Eth[4](n=353), with post-partum oGTT data available for 1820(60.3%). There were no significant differences identified in any outcome in Underweight women, or in insulin therapy between ethnicities. Table1 shows the significant differences observed compared to Eth[1].

	Caesarean Delivery	SGA	LGA	Postpartum Abnormal oGTT
Health Weight - <IOM GWG		Eth[2] Less *		Eth[3] More *
Health Weight - =IOM GWG	Eth[2] Less *		Eth[3] Less *	Eth[4] More *
Health Weight - >IOM GWG	Eth[4] More *		Eth[3] Less *	
Overweight - <IOM GWG				Eth[3] More * Eth[4] More *
Overweight - =IOM GWG		Eth[2] Less *		Eth[3] More * Eth[4] More **
Overweight - >IOM GWG	Eth[4] More *			
Obese - <IOM GWG			Eth[2] More *	
Compared to Eth[1] * p<0.05 ** p<0.01 IOM: Institute of Medicine GWG: Gestational Weight Gain				
European[Eth1] Middle Eastern[Eth2] South-East Asian[Eth3] South Asian[Eth4]				

Conclusions: Significant differences were found in the rates of pregnancy outcomes by ethnicity in women with GDM whose GWG was excessive, recommended or inadequate within three of the four BMI categories. Although further research is needed, the risk of adverse pregnancy outcomes associated with maternal weight gain appears to differ significantly by ethnicity.

Acknowledgements: We wish to thank all the Diabetes Educators who have collected data and maintained the database and Professor Jason Gardosi for permission to use his bulk centile calculator.

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#063

VALIDATION OF A TRIGLYCERIDE METER FOR USE IN PREGNANCY

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Background

Elevated maternal triglycerides have been associated with adverse pregnancy outcomes including an increased risk of preeclampsia and macrosomia. A valid triglyceride meter would allow the examination of maternal postprandial triglycerides in a systematic manner.

Methods

A non-fasting venous and two capillary measurements (using the Roche Accutrend® Plus meter) of triglycerides were measured in 40 participants at a mean of 36 weeks gestation. Following this validation phase, the meter was trialed for home triglyceride monitoring: 4 times a day (fasting and two hours post each meal) for 6 days in 8 women with GDM. These women were all more than 36 weeks gestation.

Results

The venous and capillary methods were highly correlated ($r = 0.89$, $P < 0.001$), and the distributions were similar (mean difference 5.31 mg/dL (0.06 mmol/L (SD 0.45)), $t=0.83$, $P = 0.41$). Passing Bablok equation was: $y= 0.05 + 0.99x$ [95% CI intercept -0.53 – 0.43; 95% CI for the slope 0.85 – 1.18). The estimated bias was 5.31 mg/dL (0.06 mmol/L (95%CI -0.83 – 0.94)). To date, 8 women with GDM have trialed the meter at home. Median triglycerides were: fasting 2.72 mmol/L (95%CI 2.46 – 3.36), post breakfast 2.87 (2.55 – 3.49), post lunch 2.97 (1.97 – 3.91) and post dinner 2.56 (2.13 – 2.99). The ease of use of the meter varied between women.

Conclusions

This study demonstrated the Accutrend® Plus meter provides results that correlate strongly with the reference method with low bias when used in late pregnancy. In home use, median maternal triglycerides did not vary greatly over the day. The meter was more challenging for some women than others when used for home monitoring of maternal triglycerides. Further exploration of the practicalities of the use of this meter is needed prior to embarking on a larger scale trial.

#064

GCK MONOGENIC DIABETES AND GESTATIONAL DIABETES: POSSIBLE DIAGNOSIS ON CLINICAL GROUNDS

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Background: Hattersley etal(1) note GCK MODY2 women typically have: fasting glucose(fBGL) 5.5-8.0mmol/L (persistently raised before, during and after pregnancy); a small increment at 2hrs(2hrBGL) <4.6mmol/L in an oGTT; and are usually 'slim'. Chakera etal(2), in a predominantly Caucasian population, claimed that 'all women with GDM with a BMI≤21kg/m2 with a fBGL≥5.5mmol/L will have MODY'.

Aims: To assess clinical characteristics and pregnancy outcomes of women meeting the above criteria in a large GDM cohort with multi-ethnic origins.

Methods: We analysed de-identified data for GDM women diagnosed by ADIPS(1998) criteria from 1993-2013, comparing those with complete data including; diagnostic oGTT fBGL 5.5-8.0mmol/L, 2hrBGL-fBGL increment <4.6mmol/L, pre-gestational BMI ≤21kg/m2 (based on self-reported weight), birth outcomes and post-partum oGTT data (GroupA1). GroupA2 are those with BMI >21and<25kg/m2. GroupA3 are those with BMI ≥25kg/m2. They were compared to women with the same criteria except for an increment ≥4.6mmol/L regardless of BMI (GroupB). Birth centiles were calculated using gestation.net bulk calculator(3) Version 6.7. T-tests and Chi-squared analyses were undertaken; statistical significance p<0.05. Ethics approval was given by SWSLHD Research and Ethics (14/035LNR).

Results: From over 4000 GDM records, of those meeting entry criteria, we have complete birth data for 77/86 women and follow-up data for 54 of those 77 women (GroupA1), for 197/216 and 117/197 women respectively (GroupA2), and for 646/714 and 336/646 women respectively (GroupA3). Ethnicity was significantly different between the Groups. Other outcomes are shown in Table 1.

	Poss GCK	Poss GCK	Poss GCK	NOT GCK ALL
	BMI<21	BMI>21<25	BMI>25	Increment>4.6
Table 1	**Group[A1] n=54**	**Group[A2] n=117**	**Group[A3] n=336**	**Group[B] n=200**
SE Asian or Sth Asian	74.1%	55.6% *	18.8% #	46.5% ***
Insulin Treatment	22.2%	32.5%	53% #	43.5% *
Final Insulin Dose (units)	21.7 ± 11.9	38.9 ± 30.6	41.7 ± 46.7	32.5 ± 28.8
Caesarean Delivery	16.7%	20.5%	31% *	31.5% *
SGA	13.0%	6.0%	8.6%	9.5%
LGA	11.1%	13.7%	17.0%	21.0%
Abnormal Post-partum oGTT	16.7%	25.6% *	34.8% *	47% #
fBGL still ≥5.5 post-partum	42.6%	65.8% **	67.3% ***	45.5%
Compared to GroupA1 *p<0.05 **p<0.01 ***p<0.001 #p=0.0001				

Conclusions: In this multi-ethnic background cohort, not all women had persistently raised fBGL post-partum (including six of eight women of Caucasian background). Whilst these clinical criteria identify women with lesser degrees of adverse birth outcomes and post-partum abnormal glucose tolerance, less than half in GroupA1 still meet possible criteria for MODY2. Testing these women for MODY2 in pregnancy would be costly with likely low yield.

Acknowledgements: We wish to thank all the Diabetes Educators who have collected data and maintained the database and Professor Jason Gardosi for permission to use his bulk centile calculator.

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#065

CLINICIAN VIEWS AND KNOWLEDGE ON POSTPARTUM HEALTHCARE PROVISION FOR WOMEN WHO HAVE HAD GESTATIONAL DIABETES MELLITUS: A SYSTEMATIC REVIEW OF QUALITATIVE/SURVEY STUDIES

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Background: Women who have had gestational diabetes mellitus (GDM) are at significantly increased risk of type 2 diabetes mellitus (T2DM), but postpartum blood glucose testing for T2DM is often not undertaken. This systematic review of qualitative/survey studies aimed to examine clinician views and knowledge regarding postpartum healthcare provision for GDM.

Method: Four databases, PubMed, Web of Science, EMBASE and CINAHL, were searched. Qualitative studies and surveys, with clinicians as participants, which reported pre-specified outcomes including barriers and facilitators to postpartum care for GDM (PROSPERO 2013:CRD42013003619) were included. Two authors (EH and PM) independently assessed quality and undertook thematic synthesis.

Results: Eleven surveys and two interview studies were included (4435 clinicians). Participants were specialist and primary care doctors/trainees, nurses/midwives and a dietician. Eight studies were conducted in the United States, and the other studies were conducted in Canada, England, India, Sweden and Tonga. Key themes included adequacy of knowledge of risk of T2DM, gaps between knowledge and practice relating to postpartum screening, and differing prioritisation of postpartum screening. A need to improve GDM education for women and to reduce financial barriers was also apparent. Studies also reported shortfalls in systems to ensure postpartum screening occurs, and a need to improve communication and collaboration relating to care of women who have experienced GDM. Data from the surveys was limited in its depth and ability to identify remedial strategies**.**

Conclusions: In this review, most clinicians were aware of the increased risk of T2DM in women with a history of GDM. A key barrier to provision of postpartum care is lack of communication of the diagnosis of GDM. Key facilitators include further clinician training on the subject, clarification of responsibility for postpartum follow-up and improving GDM education for women. Low prioritisation of screening needs to be further explored via interviews.

#066

NEONATAL OUTCOMES IN BABIES OF MOTHERS WITH TYPE 1 DIABETES WITH AND WITHOUT PREECLAMPSIA

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Background: The incidence of preeclampsia (PE) is markedly increased in Type 1 diabetes (T1DM). Premature delivery (PD) and small-for-gestational age (SGA) infants are common consequences of PE. Infants of T1DM mothers also have increased risks of hypoglycaemia, jaundice and macrosomia, and hence NICU / SCN admission rates are high.

Methods: This is a retrospective cohort study of antenatal factors predictive of maternal and fetal outcome in Type 1 diabetic women, managed at the Royal Women's Hospital 2000-2011. Data from 246 eligible pregnancies of 147 Type 1 diabetic women were analysed.

Results: Pregnancies affected by PE (n=37, 15%) had higher rates of PD n=17 (46%) vs n=52 (25%), p=0.009; lower vaginal delivery rates n=2 (5%) vs n=67 (32%), p<0.001 were also noted. See Table 1 for other outcomes.

Variable	**Overall**	**PE**	**No PE**	***p*-value**
Gestation at delivery, mean (SD) (wks)	37 (3.42)	35 (4.64)	37 (3.08)	**<0.001**
Birthweight, mean (SD) (g)	3307 (890)	2947 (918)	3372 (872)	**0.004**
Birthweight centile, mean (SD)	79.3 (29.7)	74 (34)	80 (29)	0.270
Neonatal hypoglycaemia (%)	46	63	44	0.052
NICU or SCN admission (%)	77	89	74	**0.049**
Neonatal jaundice (%)	35	39	33	0.064
Phototherapy treatment (%)	22	35	20	0.50
Macrosomia (%)	32	27	32	0.52
SGA (%)	4.9	8.1	4.3	0.33
First trimester maternal HbA1c, mean (SD) (%)	7.64 (1.40)	8.25 (1.18)	7.57 (1.4)	**0.027**

Conclusion: There is a higher incidence of PE in T1DM with attendant complications of preterm birth. Women who developed PE had a higher HbA1c in first trimester, and their infants had a trend towards increased rates of hypoglycaemia and jaundice. There is a higher rate of SCN and NICU admission in infants whose mothers had PE, which is likely accounted for by hypoglycaemia, jaundice and prematurity. Macrosomia rates did not vary significantly between PE and non-PE groups but may have contributed to lower vaginal delivery rates. The SGA sample size (n=3) was too small for meaningful analysis.

#067

INFLUENCE OF DIABETES ANTENATAL CLINIC AND EDUCATION (DANCE) ON NEONATAL OUTCOME IN LYELL MCEWIN HOSPITAL, A TERTIARY CARE HOSPITAL IN NORTHERN ADELAIDE.

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Abstract

Objective: To assess maternal and neonatal outcomes in patients diagnosed with gestational diabetes (GDM) or pre-existing diabetes (DM), and to compare results with the audit done in 2011,after introduction of diabetes antenatal clinic and education (DANCE). Design: A retrospective audit of peripartum DM management over a 12-month period from May 2012 to April 2013. Setting: Labour ward, Lyell McEwin Hospital (LMH), a tertiary hospital. Participants: Patients with GDM or pre-existing type 1 or type 2 DM who had a live birth during the study period. Main outcome measures: Maternal outcomes include type of delivery, maternal hypoglycaemia and pre-eclampsia. Neonatal outcomes include hypoglycaemia requiring intravenous dextrose, jaundice treated with phototherapy, and macrosomia (weight >4000 grams at birth). Adherence to protocol was assessed by the treatment given and achievement of glycaemic target during labour. Results: 242 of 264 patients (91.7%) had GDM, 9 (3.4%) had type 1 DM, and 13 (4.9%) had type 2 DM. One-hundred-and-forty-three (54.2%) patients had lifestyle measures alone, insulin was prescribed to 98 (37.1%), and metformin alone was prescribed to 23 (7%) patients. Hypertension was diagnosed in 30 (11.4%) patients. 58 (22%) patients received intrapartum insulin infusion, 63 (23.9%) received subcutaneous insulin, and 143 (54.1%) had blood glucose monitoring alone. Seven (2.7%) patients had severe maternal hypoglycaemia (BGL<2.9 mmol/L). Caesarean section was performed in 94 (35.5%) women. Pre-eclampsia was diagnosed in 30 (11.4%) patients. 34 (12.9%) infants had severe neonatal hypoglycaemia requiring intravenous dextrose, 36 (13.6%) had macrosomia and 17 (6.3%) infants had phototherapy-treated neonatal jaundice . Compared to the insulin- or metformin-treated patients during pregnancy in the 2011 audit, our group had significantly improved primary neonatal outcomes (macrosomia 10.7% vs. 21.9%, relative risk 0.49, p=0.01; neonatal hypoglycaemia requiring intravenous dextrose 12.3% vs. 19.2%, relative risk 0.64, p=0.13; and jaundice requiring phototherapy 8.4% vs. 16.4%, relative risk 0.46, p=0.03). Conclusion: Significant improvement was observed in primary neonatal outcomes in this audit compared to the 2011 audit after introduction of DANCE.

#068

A REVIEW OF MOBILE APPLICATIONS FOR GESTATIONAL DIABETES MELLITUS

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Background: Mobile applications (apps) provide potentially unregulated information to consumers about gestational diabetes mellitus (GDM) and its treatment.

Aims: To determine the availability and functionality of GDM-related apps in two highly-accessed mobile app 'stores', Apple's App Store, and Google Play (for Android). To determine whether the information provided in GDM-related apps includes/agrees with published clinical guidelines for the diagnosis and treatment of GDM (the Australiasian Diabetes in Pregnancy Society (ADIPS) Guidelines).

Methods: We searched mobile app stores for GDM-related apps using the keywords 'gestational diabetes' and 'pregnancy diabetes'. Apps were downloaded and assessed for relevance, cost and functionality. Information provided within apps was reviewed for inclusion of, and agreement with, recommendations of the ADIPS Guidelines.

Results: Twelve GDM-related apps (mean cost: $1.58 ± $1.93) were available on either or both app stores. Functionality included the presentation of GDM-related information and the recording of blood-glucose levels and dietary intake data. No single app provided information agreeing with all recommendations of the ADIPS Guidelines.

Conclusions: Multiple GDM-related apps are available on mobile app stores, but information provided in these apps generally does not include and/or agree with information presented in published clinical guidelines. Health consumers should not rely on mobile apps for accurate information about GDM and its treatment.

#069

THE EFFECTS OF DIABETES AND PREGNANCY ON TUMOUR NECROSIS FACTOR-ALPHA RECEPTORS 1 AND 2

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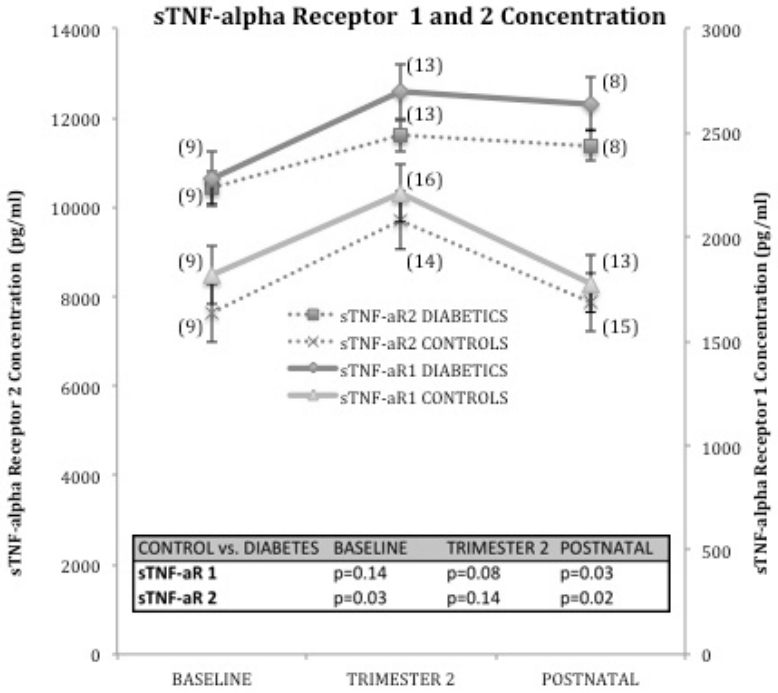
Increased soluble Tumour Necrosis Factor-alpha receptors (sTNF-aR) 1 and 2 have been associated with Diabetic Kidney Disease (DKD) in type 1 and type 2 diabetes[1,2]. Whether this applies to pregnancy is not known. We measured serial levels of sTNF-aR1 and 2 (R1+R2) pre, during 2nd trimester (T2) and post pregnancy in healthy women and women with pre-existing diabetes using the Multiplex immunoassay.

At baseline, estimated glomerular filtration rate was > 90ml/min/1.72m2 in all but one case. The baseline 24 hour albumin excretion rate for diabetics and controls at baseline was [17.08±8.31] and [5.31 ±1.91] µg/min (p=0.25).

Data for the study group as a whole are shown in the figure. There was 73% of type 1 compared to 27% of type 2 diabetes participants. Using serial comparison within subjects, in the diabetes group (N=8) there was a significant increase in both R1+R2 from baseline to T2 (p =0.01). This did not return to pre-pregnancy values post partum (p> 0.05) (Figure). In contrast, for controls there was a significant reduction of both TNF-aR1 (N=3) and TNF-aR2 (n=4) from T2 to post partum. There was no significant difference in changes in R1 or R2 in type 1 compared with type 2 diabetes.

Whether the failure of sTNFRs to return to pre-pregnancy levels post partum is linked to early DKD as reflected by microalbuminuria or the persisting effects of hyperfiltration of pregnancy requires further studies.



CONTROL vs. DIABETES	BASELINE	TRIMESTER 2	POSTNATAL
sTNF-aR 1	p=0.14	p=0.08	p=0.03
sTNF-aR 2	p=0.03	p=0.14	p=0.02

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#070

DIABETES, DEPRIVATION AND PREGNANCY OUTCOME IN SOUTH AUCKLAND

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Background

South Auckland has a multi-ethnic population with high rates of poverty. Diabetes rates in pregnancy in South Auckland are increasing. This study explores the demographics of type 2 diabetes (T2DM) and gestational diabetes (GDM) in South Auckland, the association of adverse pregnancy outcome with diabetes in this population and the extent to which this is compounded by deprivation.

Study Design

This is a retrospective observational study of pregnancy outcome in South Auckland 2001-2010. Pregnancy outcomes for women diagnosed with T2DM or GDM are compared with outcomes for the non-diabetic population.

The association of diabetes with pregnancy outcome was calculated for caesarean delivery, preterm birth, extremes of fetal growth, neonatal unit admission and perinatal mortality. Risk ratios (RR) were calculated, adjusting for maternal age, parity, ethnicity, previous caesarean and deprivation status.

The RRs of these outcomes were further analysed in diabetic pregnancies, comparing outcomes for women in the five deprivation quintiles (based on domicile at delivery), adjusting for maternal age, parity, ethnicity and previous caesarean and using the least deprived quintile as reference.

Results

The South Auckland birthing population is of diverse mix ethnicities, mostly Pacific, Maori, European, Indian and Asian. Maori and Pacific ethnicity are associated with deprivation, early age of first birth and high parity. T2DM and GDM are associated with maternal age and ethnicity. However a high overall proportion of diabetic pregnancies are in Pacific women associated with high parity and later child-bearing. Diabetes was associated with caesarean and preterm birth, macrosomia and neonatal unit admission. However the only association of deprivation with adverse outcome in diabetic pregnancies was an increase in birthweight above 97th percentile in the most deprived quintile.

Conclusion

Analysis of local data is necessary to understand the risk factors for diabetes and adverse pregnancy outcome. Deprivation is not necessarily associated with an increase in complications associated with diabetes in pregnancy.

#071

THE PSYCHOLOGICAL BURDEN OF GESTATIONAL DIABETES MELLITUS: A PILOT STUDY

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3. ***University of Tasmania , Launceston, Tasmania***

Introduction: Gestational diabetes mellitus (GDM) complicates 11-13% of pregnancies in Australia[1]. Optimization of glycaemic control is the cornerstone of treatment. Depression and anxiety may impair the ability of women with GDM to comply with frequent blood glucose monitoring, lifestyle and dietary changes, and administration of insulin as required. Consensus is lacking on how the diagnosis, and treatment of GDM affects women's psychological wellbeing. We hypothesized that women with GDM would experience an initial increase in depression and/or anxiety, however their psychological profiles would become similar to non-diabetic women in late pregnancy.

Methods: Women with GDM treated with diet (n = 20) or insulin (n = 7) and non-diabetic pregnant women (n = 20), matched for age, gestation and parity, were recruited from the Launceston General Hospital antenatal clinic. Women treated for depression or anxiety during pregnancy were excluded. Participants completed questionnaires [Edinburgh Depression Scale (EDS), State-Trait Anxiety Inventory (STAI), and in women with GDM, Problem Areas in Diabetes (PAID)] between 24 and 34 weeks gestation and again after 36 weeks gestation.

Results: Preliminary analysis of the initial questionnaires showed a trend towards higher median scores of EDS and STAI in women with GDM treated with insulin than in women with GDM treated with diet and non-diabetic pregnant women, although these differences were not statistically significant. Recruitment for the study is ongoing.

Conclusion: Screening for depression and anxiety may be indicated in women with GDM who require treatment with insulin. Access to psychological support may benefit these women and facilitate achievement of glycaemic control.

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#072

TIMING AND ACCURACY OF SELF-MONITORING OF BLOOD GLUCOSE (SMBG) IN WOMEN WITH GESTATIONAL DIABETES MELLITUS (GDM)

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3. ***The Royal Women's Hospital, Parkville, VIC, Australia***

Introduction:

SMBG is a vital component of the management of GDM. However there is no consensus in the literature regarding the optimal timing of postprandial blood glucose (BG) measurements. This study's primary aim is to use continuous glucose monitoring (CGM) and SMBG to identify the optimal time to measure BG levels after meals. The two major considerations will be the time BG levels peak, and when there is least BG variability. Secondary aims include correlation between HbA1c, BG monitoring and pregnancy outcomes.

Methods:

Women with diet-controlled GDM were recruited at their antenatal appointments at the Royal Women's Hospital, Melbourne. They had CGM (Medtronic iPro2) for six days at 32 to 34 weeks' gestation. SMBG was performed four or nine times a day during the study. After completion of the study phase, participants were randomized to postprandial SMBG measurements at 1 or 2 hours after the start of their meals, and then completed 3 questionnaires regarding their SMBG preferences.

Results:

Recruitment is ongoing (n=5; 2 iPro uploads completed and 3 currently undergoing monitoring). We expect a sample size of at least 12 by the ADIPS meeting. Our analysis will examine the postprandial profile to determine when BG levels peak, and if there is a time point with least variation of BG. The 1 and 2-hour postprandial BG values, both from commencement and completion of the meal, will be determined from CGM data and compared with SMBG values. The questionnaires will provide insight about women's preferences as to which time (1 or 2 hours postprandial) is perceived as the most accurate and convenient.

Conclusion:

The results from this study will provide practical information about postprandial glucose peaks and variability in women with diet-controlled GDM, and aid in formulating best practice advice for SMBG in women with GDM.

#073

POST-PARTUM SCREENING OF WOMEN WITH GESTATIONAL DIABETES MELLITUS: PREDICTION OF ABNORMAL GLUCOSE TOLERANCE USING ANTENATAL FACTORS AND COMPLIANCE WITH LONG-TERM FOLLOW-UP.

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Aims:

Gestational diabetes mellitus (GDM) is associated with an increased life-long risk of type 2 diabetes (DM2). Women with GDM are advised to have glucose screening at 6-12 weeks post-partum and then 1-2 yearly. We aimed to determine 1) if antenatal factors predicted abnormal glucose tolerance at 6-12 weeks post-partum and 2) compliance with glucose screening during 5 years post-partum.

Methods:

Retrospective case review was performed of women with GDM diagnosed 2007 – mid 2009 (ADIPS criteria 1998) attending a regional hospital antenatal clinic. Antenatal factors were analysed using Poisson regression for predictive value of abnormal OGTT at 6-12 weeks post-partum and likelihood of return for testing. Pathology data were used to determine compliance with glucose screening in the five years post-pregnancy.

Results:

165 women with GDM were identified, 125 (75.8%) had OGTT at 6-12 weeks post-partum. Glucose levels were abnormal in 26 (20.8%) women: 15 had impaired fasting glucose (ADA 2003 criteria) and 11 had impaired glucose tolerance. None had DM2. Only BMI at booking visit ≥35kg/m2 was predictive of an abnormal result (IRR 2.09; 95% CI 1.00 to 4.38; p=0.049). Age, parity, OGTT glucose levels, insulin usage, diagnosis before 24 weeks, macrosomia, family history and past history of GDM were not predictive. Smoking (IRR -2.18; 95% CI 0.59 to 0.97; p=0.029) and increasing parity (IRR -1.97; 95% CI 0.85 to 1.00; p=0.049) were predictive of non-return, independent of socioeconomic status. In the five years following pregnancy, 149 (90.3%) women had at least one glucose screening test (OGTT, FPG or HbA1c). The average number of tests was 3.1 (SD 2.6).

Conclusions:

BMI in early pregnancy was the only predictive factor for abnormal glucose tolerance at 6-12 weeks postpartum. Smokers, independent of social status, were less likely to return for postpartum testing. In our population, compliance with post-partum glucose screening was high.

Acknowledgement:

This research was supported by an ADIPS clinical research grant awarded in 2012.

#074

PLANNING FOR THE BEST START: AN NDSS INITIATIVE TO INCREASE AWARENESS OF THE NEED FOR PRE-PREGNANCY PLANNING AND CARE IN WOMEN WITH TYPE 1 AND TYPE 2 DIABETES

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Women with type 1 and type 2 diabetes are at high risk for adverse pregnancy outcomes1. Research has shown that these risks can be minimised through appropriate family planning and diabetes specific pre-pregnancy care2. However, evidence suggests that many Australian women with diabetes do not plan their pregnancies or seek pre-pregnancy care prior to conception3. The National Diabetes Services Scheme (NDSS) Diabetes in Pregnancy program is an initiative funded as an NDSS National Development Program which aims to address the need for pre-pregnancy care in women with pre-existing diabetes. Key strategies include (1) establishing a pre-pregnancy planning reminder system for women with diabetes (2) developing information about pre-pregnancy counselling (3) developing web based and other resources on pregnancy for women with diabetes and (4) developing information for obstetricians and primary health care providers regarding pre-pregnancy planning and the management of diabetes in pregnancy. The needs assessment phase of the project includes stakeholder consultation, health professional key informant interviews and a national NDSS Registrant survey to gather information about knowledge, attitudes and beliefs towards contraception and pregnancy, awareness and experiences with pre-conception care and the information needs of women with diabetes. Strategies to increase awareness of the need to plan and prepare for pregnancy will be developed and all information tailored to the needs of women with diabetes. Specific strategies will be developed to address the needs of adolescents, Aboriginal and Torres Strait Islander women and women from culturally and linguistically diverse backgrounds. This three year project will include evaluation of program materials, impact and reach, as well as ongoing monitoring and review. The outcomes of this NDSS project will be nationally applicable and rolled out as a Registrant Support Service, subject to Commonwealth approval. The National Diabetes Services Scheme is an initiative of the Australian Government administered by Diabetes Australia.

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#075

PREGNANCY IN WOMEN WITH DIABETES: THE EXPERIENCES OF HEALTH PROFESSIONALS WORKING WITH ABORIGINAL & TORRES STRAIT ISLANDER AND CULTURALLY & LINGUISTICALLY DIVERSE WOMEN

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Women with pre-existing diabetes are high risk for adverse pregnancy outcomes1. The National Diabetes Services Scheme (NDSS) Diabetes in Pregnancy National Development Program aims to reduce these risks by increasing awareness of the need for pre-pregnancy planning and optimal diabetes management prior to, and during pregnancy. A number of key target groups have been identified within this project, including women from Aboriginal and Torres Strait Islander (ATSI) backgrounds and culturally and linguistically diverse (CALD) communities. Women from these groups are at increased risk of type 2 diabetes2, while language, cultural and geographic barriers may impact on their access to pre-pregnancy care. To better understand the specific needs of ATSI and CALD women with diabetes focus groups and key informant interviews were conducted with health professionals working with these target groups. Semi-structured interview questions focused on pre-pregnancy planning, information sources, responsibility and capacity, perceived risks, knowledge and awareness and strategies to remind women about pre-pregnancy planning. During the period October–December 2013, a research consultant was engaged to conduct focus groups with 26 health professionals working with Aboriginal communities. Additional consultation was completed in the Torres Strait Islands. Fifteen health professionals working with CALD women participated in focus groups or key informant interviews. The Key findings highlighted a number of issues regarding pregnancy in women with diabetes including: 1) a lack of available information for health professionals and women 2) women not making the connection between diabetes and pregnancy risk 3) younger age of diagnosis, increasing the need for information 4) confusion between types of diabetes in pregnancy 5) willingness among health professionals to support diabetes and pregnancy messages. A number of culturally specific findings were also reported. This information will be used to assist in developing strategies to address the needs of ATSI and CALD women with diabetes. The NDSS is an initiative of the Australian Government administered by Diabetes Australia.

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#076

KNOWLEDGE AND BELIEFS ABOUT NUTRITION AND PHYSICAL ACTIVITY DURING PREGNANCY IN WOMEN FROM THE COUNTIES MANUKAU DISTRICT HEALTH BOARD (CMDHB) REGION OF NEW ZEALAND

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Objectives

To assess: views on nutrition and physical activity during pregnancy, factors influencing eating habits, measured versus perceived body weight and facilitators for participation in a future nutritional intervention to reduce gestational diabetes.

Methods

A survey was administered to CMDHB women recruited in late pregnancy from clinical and community settings during September to December 2013. Stratified sampling was used to obtain an ethnically- representative sample of at least 400 women.

Results

Participants (n=422) comprised of 24% Maori, 41% Pacific, 13% Asian, and 22% European/other women. Most (95%) had received information about healthy eating during pregnancy. Of women eating more during pregnancy (n=187, 44%), the most common reasons were "cravings" (70%) or "eating for two" (63%). Being of Maori or Pacific ethnicity (adjusted for gestation at recruitment) were most strongly associated with unhealthy eating in pregnancy (Māori: OR=17.7, 95% CI=8.5-36.8; Pacific: OR=14.5, 95% CI=7.3-28.9). Other factors associated with unhealthy eating (OR adjusted for gestation and ethnicity) were: parity of ≥3 (OR=2.1, 95% CI=1.3-3.5); obesity (OR=2.8, 95% CI=1.4-6.0); unplanned pregnancy (OR=1.9, 95% CI=1.2-3.2); and takeaways ≥3 times/week (OR=4.5, 95% CI=1.9-10.6). About half felt mild and moderate physical activity was acceptable during the first and second half of pregnancy respectively; walking was the main form of exercise n=371(88%). Overweight/obese women perceived themselves to be lighter based on the Figure Rating Scale. Eighty-three percent would likely participate in a nutritional intervention study aimed to "improve health for them and their babies". More women preferred one-to-one dietary advice (69%) rather than group sessions (31%); clinic (41%) and then community hall (31%) were preferred settings. The majority had access to a mobile phone (98%) or the internet (93%).

Conclusion

This survey identified factors associated with unhealthy eating in a multicultural socio-economically challenging community. This information will help to develop a culturally-appropriate and acceptable nutritional intervention for pregnant women in the region aimed to reduce the rates of gestational diabetes.

#077

METFORMIN USE FOR TYPE 2 DIABETES IN PREGNANCY: A SINGLE-CENTRE EXPERIENCE

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In 2004, an Australasian Diabetes in Pregnancy Society (ADIPS) ad hoc working party published recommendations stating there were inadequate data on safety and efficacy to support metformin therapy as routine management for type 2 diabetes (T2D) in pregnancy.[1] The group acknowledged however that where compliance or insulin resistance was an issue, metformin may have a role. Similar sentiments were published in 2006 by the American Diabetes Association (ADA).[2]

The MiG trial published in 2008[3] was the first prospective, randomised controlled trial comparing metformin with insulin in women with gestational diabetes (GDM). It demonstrated no serious adverse events associated with the use of metformin in 363 women. However nearly half of these women needed supplemental insulin to achieve glycaemic control. Other studies in women with polycystic ovarian syndrome (PCOS) using metformin around the time of conception and during pregnancy yielded similar safety results.[4] Evidence is still limited as to the conceptual benefits of metformin, including improved maternal insulin resistance and weight loss, and potential in utero effects impacting subsequent birth weight, neonatal outcome and body composition.

We present a single-centre retrospective audit of 185 women with T2D who delivered in a tertiary obstetric hospital in Melbourne between 2009 and 2013. 79 (43%) of these women conceived on metformin, with 33 (42%) of these women continuing metformin for the duration of their pregnancy. 12 women commenced metformin during the pregnancy. Of the women on metformin at delivery, 38 (84%) also required supplemental insulin to achieve glycaemic control. We compare mode of delivery, rate of pre-eclampsia, and neonatal outcome (ie. rate of congenital malformations, Apgar scores, birth weight, perinatal morbidity and rate of neonatal hypoglycaemia) in these cohorts.

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#078

DIAGNOSTIC APPROACH TO INVESTIGATING THE RARE CASE OF A PELVIC RING FRACTURE SUSTAINED DURING SPONTANEOUS VAGINAL DELIVERY

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Introduction: Very few cases have been reported in the published literature describing disruption of the pelvic ring primarily due to intolerable pressure through the birth canal during spontaneous vaginal delivery[1]. Such a rare occurrence should prompt investigations into secondary pathological causes.

Case presentation: 32-year-old primiparous female of Burmese background was found to have a stable pelvic ring fracture diagnosed on imaging, undertaken to investigate complaint of intense right buttock and groin pain in the immediate postpartum period. This was following an otherwise uncomplicated normal vaginal delivery of a live infant weighing 3300g. The patient reported no history of other antecedent traumata or falls that may have accounted for the fracture, and had unremarkable past medical and surgical backgrounds (apart from stable, chronic Hepatitis B and supplement-corrected Vitamin D deficiency).

Described herein is the diagnostic approach undertaken by a multidisciplinary team to investigate possible secondary causes of a fracture that typically only occurs following high-energy trauma. Of note, preliminary investigations revealed borderline low levels of parathyroid hormone, but with normal calcium and phosphate levels. She was also noted to have mildly reduced bone mineral density consistent with osteopenia on bone mineral densitometry scan.

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#079

ASCITES OF UNKNOWN ORIGIN IN PREGNANCY

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INTRODUCTION: The differential diagnoses for abdominal ascites includes malignancy, infection, inflammation and trauma. First presentation of ascites in pregnancy presents a unique diagnostic dilemma, being a rare occurrence that may be associated with the aforementioned differentials, or more rarely, occurring spontaneously in pregnancy without an obvious underlying pathology [1].

CASE PRESENTATION: 41-year-old multiparous Somali woman who was noted to have significant ascites on ultrasound performed at 24 weeks' gestation, to investigate worsening abdominal distension. This was in the context of an eight-month history of abdominal pain with nausea, anorexia, unintentional weight loss and chronic non-productive cough. The pregnancy was otherwise progressing normally. Extensive investigations and multidisciplinary team reviews undertaken antenatally to investigate the source of ascites, including ascitic tap for culture and cytology; to exclude malignancy, TB, coeliacs, and pre-eclampsia, yielded inconclusive results. Serial obstetric scans suggested foetal growth restriction from about 34 weeks' gestation and a borderline raised SD of 3.3 (normal AFI of 16).

The patient underwent an elective lower segment caesarean section at 37 weeks' gestation; during which, four litres of chylous ascites was drained, with tissue samples taken for assessment. Her upper abdominal and pelvic organs were noted to appear grossly normal. While the ascites fluid cytological assessment was negative; histological assessment of omental biopsies taken intra-operatively revealed metastatic Grade-I, well-differentiated neuroendocrine tumour. Subsequent post-partum PET scans showed multiple hepatic, intra-abdominal and left supraclavicular nodal lesions, confirmed by FNA of cervical nodes to be metastases from tumour of neuroendocrine differentiation.
The patient continues to be under the care of the Medical Oncology team.
CONCLUSION: While there have been a handful of reports of ascites occurring spontaneously during pregnancy [1]; this case highlights the pertinence of extensive and ongoing investigations to exclude serious aetiological factors of this otherwise rare clinical occurrence during pregnancy.

#080

A SINGLE CENTRE AUDIT OF IRON POLYMALTOSE INFUSION IN PREGNANCY

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Background Iron deficiency anaemia is common in pregnancy and is associated with significant maternal, fetal and infant morbidity. Numerous publications report the safety and efficacy of intravenous iron when given in the second and third trimester of pregnancy[1], however its use is not standardised.

Aims To audit the use of intravenous iron polymaltose in pregnant women at Mercy Hospital for Women and to evaluate the indications, complications and response to treatment.

Methods A retrospective audit of women (n= 61) who had intravenous iron polymaltose during pregnancy at Mercy Hospital for Women, Heidelberg, Victoria from 1 November 2012 to 31 October 2013.

Results 61 pregnant women received intravenous iron polymatose. 5 women were vegetarian and 3 had thalassaemia (1 beta thalassaemia heterozygote and 2 alpha thalassaemia heterozygotes). 52 women (85%) were treated with oral iron supplements prior with 27% of these women experiencing side-effects of nausea, vomiting and constipation. B12 and folate levels were tested in 41% and 33% of women respectively and 66% had a vitamin D level tested with 58% of these women deficient (<50nmol/L). The median gestation the iron polymaltose was given at was 33+3 weeks (range 9+6 to 40 weeks). The mean haemoglobin level was 97g/L (range 80 to 120g/L), the mean MCV level was 80fL (range 64 to 93fL) and the mean ferritin level was 10ug/L (range 5 to 26ug/L). 6 women had a reaction to intravenous iron polymaltose, including dyspnoea, chest pain and headache, 2 infusions required cessation. There were no anaphylactic reactions. The mean increment in haemoglobin post infusion was 17g/L.

Conclusion Intravenous iron was administered according to clinician discretion to women with a wide range of haemoglobin, ferritin and MCV levels and varying prior use and tolerance of oral iron supplementation. Structured guidelines are required at our institution to improve and standardise care.

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#081

RENAL ARTERY STENOSIS DUE TO FIBROMUSCULAR DYSPLASIA IN PREGNANCY PRESENTING AS SEVERE HYPERTENSION AND IUGR

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A case report of a 36 yr old gravida 10, para 8 presenting with bilateral renal artery stenosis of >70% with normal renal functions at 8 weeks gestation. Pregnancy continues up to term but develops severe hypertension and IUGR. She delivers by Caesarean section at 37+ weeks and has good maternal and foetal outcome.

#082

METASTATIC NASOPHARYNGEAL CANCER IN PREGNANCY: A CASE REPORT AND LITERATURE REVIEW

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Background

Nasopharyngeal carcinoma in pregnancy is rare and there is limited literature to guide management. We present a case that highlights possible approaches.

Case Description

A 38 year old G2P1 Chinese woman presented with palpable cervical lymphadenopathy, left hearing loss, tinnitus and epistaxis in the second trimester. Lymph node biopsy diagnosed Epstein-Barr virus positive nasopharyngeal carcinoma (NPC). Limited staging with non-contrast MRI Brain and low dose FDG PET/CT scan revealed a large left sided nasopharyngeal tumour (4.5x3.9x2.6cm) with local invasion into the adjacent skull base, bilateral cervical nodal metastases and bony metastases (bilateral scapula tips, right sacrum and right posterior acetabulum), (T3N2M1).

Management options considered were; 1. Immediate commencement of antenatal chemotherapy, 2. Defer chemotherapy until after preterm delivery between 32-34 weeks, 3. Defer chemoetherapy until after delivery after 36 weeks. Chemotherapy is highly effective in NPC and would prolong survival, albeit with potential risk to the fetus.

Other case vignettes report management with delivery at 33 weeks followed by chemoradiotherapy with 3 year disease-free survival and subsequent successful pregnancy[1], spontaneous labour at 32 weeks followed by chemoradiotherapy however with death within 6 months[2] and antenatal radiotherapy with successful outcome[3] .

Initially, a consensus decision was reached to defer chemotherapy for 4 weeks and deliver at 34 weeks (given an ECOG status of 0), with close monitoring for disease progression.

Induction of labour was planned at 34 weeks (after two doses of betamethasone) given a previous normal delivery and a favourable cervix, and chemotherapy scheduled one week postpartum. Subsequently, the patient declined induction until 36 weeks and then proceeded to an uncomplicated normal vaginal delivery. Postpartum, the patient declined further treatment. An MRI and FDG/PET scan demonstrated slight increase in size of the primary tumour, stable disease in neck and some progression of bony metastases. At 2 months postpartum, she remained stable.

This case illustrates that conservative management until a more favourable delivery date may be a reasonable approach with close monitoring in carefully selected patients managed by an experienced multidisciplinary team.

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#083

PERINATAL AUDIT OF SINGLETON STILLBIRTHS IN A TERTIARY HOSPITAL IN WESTERN SYDNEY

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AIM

To audit all singleton stillbirths over a six-year period in a Tertiary referral hospital in Western Sydney (Westmead Hospital).

METHODS

A retrospective audit of singleton stillbirths was conducted in compliance with the Perinatal Society of Australia and New Zealand (PSANZ) audit guidelines[1]. All stillbirths that took place between 2005 and 2010 inclusive were identified through the obstetric database and each individual medical record was extracted for analysis. The data was analysed according to maternal demographics, model of antenatal care, stillbirth investigations, perinatal death classification and follow-up.

RESULTS

A total of 235 singleton stillbirths were identified during the study period of a total of 27,929 babies that were delivered at Westmead Hospital. The majority of the records [215(92%)] were available for analysis. Overall Westmead Hospital had a singleton stillbirth rate of 7.6/1000 births. This demonstrates a statistically significant increasing trend in annual stillbirth rates, exceeding both the national and state stillbirth rate in the past 6 years. Congenital anomalies (27%) and unexplained antepartum death (15%) have remained two of the major causes of stillbirth reflecting recent Australian and New Zealand data. Fetal growth restriction (17%) and spontaneous preterm birth (15%) have also surfaced as increasingly important causes particularly in preterm gestations.

CONCLUSION

Our review has identified changing demographic patterns and underlying causes of singleton stillbirths over the last 6 years at our tertiary obstetric unit. Further research and analysis is crucial to recognize the impact of these variables and patterns in order to appropriately manage and prevent adverse perinatal outcomes in our population.

1. The Perinatal Society of Australia and New Zealand, Perinatal Mortality Group. Clinical Practice Guideline for Perinatal Mortality. Second edition, Version 2.2, April 2009. Available from http://www.psanzpnmsig.org.au

#084

IRON SUPPLEMENT USE AMONG PREGNANT WOMEN AUSTRALIA – ARE THE RIGHT WOMEN TAKING THE RIGHT AMOUNT?

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Background: Current Australian antenatal guidelines do not recommend routine iron supplement use during pregnancy. However, iron supplementation is recommended for women at high risk of anaemia.

Aim: To determine iron supplement use among pregnant women by iron status.

Methods: A cross-sectional survey was conducted among pregnant women attending antenatal clinics at two Sydney tertiary hospitals, Royal North Shore Hospital and Royal Hospital for Women, January-March, 2014. Women completed a questionnaire collecting information on maternal characteristics, dietary and iron status, and supplement use before and during pregnancy; including brand, dose, and frequency. Results were analysed using frequency tabulations and contingency analyses.

Results: A total of 589 surveys were completed. Mean (±SD) age of women was 32.8±4.7 years, 38.5% were nulliparous and 94.9% were singleton pregnancies. Current multivitamin (MV) and/or iron supplement use was reported as both by 36.8% women, 41.1% of women took MV only, 9.2% iron only and 12.9% took neither. Almost one in five women (18.9%) reported a diagnosis of iron deficiency (ID) or iron deficiency anaemia (IDA) and iron supplement use, 7.3% had ID/IDA but not taking an iron supplement (non-compliant), 11.4% did not have ID/IDA and consuming an iron supplement, and 62.3% of women were not consuming or in need of treatment with iron supplementation. Women without ID/IDA consuming an iron supplement were more likely to be consuming a MV (P<0.001) and have a multiple pregnancy (P<0.001) and those that were non-compliant were less likely to be consuming a MV (P<0.001) and more likely to be <24 weeks' gestation (P=0.04).
Conclusions: The majority of women taking iron supplements reported a diagnosis of ID/IDA, and use is consistent with current guidelines. Further analysis of iron dosage by maternal iron status will assess the suitability of amounts of iron being consumed with supplements.

#085

MATERNAL BODY MASS INDEX (BMI) IS NOT ASSOCIATED WITH ADVERSE RISK IN WOMEN WITH GESTATIONAL DIABETES

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Background: Studies have shown an increased risk of maternal and neonatal complications in pregnant women who are obese. Gestational diabetes itself is also an independent risk factor for complications during peri-partum period. An association between maternal BMI and risk in women with Gestational diabetes is less understood.
Aim: We investigated the relationship between maternal BMI and the risk of adverse outcomes for both mother and child in women with gestational diabetes.
Method: We performed a retrospective review of medical records on 244 women with gestational diabetes who had live births, admitted to a metropolitan for delivery between the 1st of May 2012 and the 20th of April 2013. Maternal BMI was calculated at the first antenatal booking visit.
Maternal outcomes including pre-eclampsia, premature rupture of membrane and Caesarean section (emergency and elective); and neonatal outcomes including jaundice, stillbirth and macrosomia (defined as >4000g) were examined.
Results: Maternal BMI was classified according to the WHO guidelines. BMI at antenatal booking visit is shown in the table below:

Underweight (BMI < 18.5)	8 (3%)
Normal (18.5-24.99)	65 (27%)
Overweight (25 – 29.9)	46 (19%)
Obese Moderate (30 – 34.99)	46 (19%)
Obese Severe (35 – 39.9)	33 (14%)
Obese Very Severe (>40)	44 (18%)

To our surprise in our small study population maternal BMI at first antenatal visit showed only a significant increased risk with pre-eclampsia in women with a BMI >40. Other outcomes did not appear to be significantly associated with risk of adverse maternal or neonatal outcomes in women with gestational diabetes. Full results will be displayed on our poster.
Conclusion: This relationship between maternal BMI and risk requires further investigation in a larger study population as there is an increase in prevalence of obesity and gestational diabetes in child-bearing women.

#086

TRIGGERS FOR DELIVERY IN PRE-ECLAMPSIA

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Objective
To examine the frequency with which the most accepted indicators for delivery in pre-eclampsia (term gestation, inability to control blood pressure, maternal end-organ compromise or dysfunction, fetal compromise) are used in a population with predominantly late-onset (birth >34 weeks) pre-eclampsia (PE).
Methods
Retrospective cohort study using the St George Public Hospital (SGH) Hypertension in Pregnancy database. Demographic, pregnancy, and outcome details were extracted and verified by comparison with data collection sheets.
Results
From 2001-2011, 817 women with primary PE diagnosis cared for at SGH were included. Mean maternal age was 30.2±5.6 years, mean gestation (GA) at time of consultation was 34.8 weeks, and at delivery 37.5±2.5 weeks (65% GA 37+weeks at delivery). 93% had proteinuria ≥30mg/mmol, 7% liver involvement, and 3.5% platelets ≤100.
160 women had data sheets with delivery triggers available. Of these, 33 (21%) were delivered for term (37+ weeks) gestation alone, with no other listed maternal or fetal indication. 68 women (43%) were term and also had a specified maternal indication. 4 (3%) were term with fetal or mixed maternal/fetal indication. The most common maternal trigger for delivery (all gestations) was uncontrolled/elevated

blood pressure (101 cases, 63.1%) and most common fetal trigger intrauterine growth restriction (IUGR: 12 cases, 7.5%). Only 4 cases (2.5%) had abnormal maternal biochemistry/haematology noted as the primary indication. Maternal triggers were noted significantly more often than fetal ones (74% Vs. 13%, p<0.01). Presence of a fetal or combined maternal/fetal indication for delivery was significantly more common in women delivering at <37 weeks Vs. 37+weeks (29% Vs. 4%, p<0.01).

Conclusion

In our population of predominantly late-onset PE, maternal triggers for delivery (predominantly severe hypertension) far outweigh fetal triggers (predominantly IUGR). Fetal and mixed indicators for delivery were relatively more common in women delivering preterm, possibly reflecting the severity of placental dysfunction in this subgroup.

#087

DIETARY VITAMIN, MINERAL AND HERBAL SUPPLEMENT USE AMONGST PREGNANT WOMEN ATTENDING ANTENATAL CARE: THE WHAT, WHY AND HOW MUCH?

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AIM

To describe maternal use of dietary vitamin, mineral and herbal supplements before and during pregnancy.

METHODS

A cross-sectional study of pregnant women attending antenatal care at Royal North Shore Hospital and Royal Hospital for Women in Sydney, January to March 2014. An anonymous survey collected information on general maternal and pregnancy characteristics (i.e. age, education, parity, gestational age), and the use of dietary and herbal supplements such as type, duration, and sources of information. Frequency and contingency tabulations were performed.

RESULTS

Of 612 women surveyed, 23 were excluded due to incomplete data. Of the remaining 589, 64% were >26 weeks gestation, 55% had no previous children, 28% were overweight or obese, and 67% were tertiary educated. In the 3 months before pregnancy, 59% of women reported taking a multivitamin or folate supplement. This increased to 76% at 14 weeks' gestation. At the time of the survey 93% of women were taking vitamins or supplements: 156 (27%) were taking multivitamin only, 296 (51%) were taking a multivitamin and another supplement, and 84 (14%) were not taking a multivitamin but taking at least one supplement. The average number of supplements taken alone or in addition to a multivitamin was 2 and ranged from 1-13. The most common 5 supplements taken outside of a multivitamin were folic acid (n=180), iron (n=179), vitamin D (n=135), calcium (n=74) and fish oil (n=74).

CONCLUSION

Reported rates of pre-pregnancy and early pregnancy folate and or multivitamin use are encouraging, however they remain below the target for folic acid supplementation to prevent neural tube defects. Women report high rates of continuing multivitamin and or supplement use throughout pregnancy.

#088

VISUAL DISTURBANCE IN PREGNANCY WITH SUSPECTED CEREBRAL INFARCTION

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Blindness related to pregnancy is dramatic and may present a diagnostic challenge.
A 31 year old G1P0 35 weeks gestation presented with headaches and a day of visual disturbance of the right eye. She had no history of major medical disorders. Her presenting blood pressure was 160/105 95 with a main examination finding of centrally reduced vision in the right eye; visual acuity right eye unassisted 6/60 and the left eye 6/9. Her blood testing showed GGT 73, ALT 56,Hb 130, platelets 148,000. A CT head scan revealed right external capsule enhancing lesion. She was delivered by emergency LSCS of a female infant 2040gms, her blood pressure improved to 145/95 but her right scotoma persisted, her neurological examination was otherwise normal. An MRI scan showed a high T2 signal lesion in the right external capsule diagnosed by the radiologist as Right Middle Cerebral artery infarct. She was assessed by the Stroke Neurologist who diagnosed Posterior Reversible Encephalopathy Syndrome (PRES). An ophthalmology consultation and subsequent stereoscopy examination revealed a right large subfoveal serous retinopathy (CSR). She was discharged on Nifedipine therapy with BP 140/90. Her vision recovered after 6 weeks and an MRI head scan at this time was normal. Previous reports of concurrent CSR and PRES have been associated with typical retinal and occipital lobe lesions respectively. In this case this patient presented with radiological indications of a cerebral infarct but this did not correspond with the clinical presentation. The diagnoses of CSR and atypical PRES were ultimately confirmed at follow up. Unnecessary interventional stroke management was avoided. In conclusion this case highlights the importance of careful clinical assessment and that PRES is an important differential in hypertension related cerebral changes.

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#089

EUGLYCAEMIC KETOACIDOSIS IN PREGNANCY

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Diabetic ketoacidosis complicating Type 1 diabetes is a well described entity and in pregnancy is associated high fetal mortality(1). Less commonly described however, is ketoacidosis in pregnancy in women without pre-existing diabetes. Normal pregnancy, particularly the third trimester is characterized by maternal insulin resistance and accelerated/preferential maternal fat & ketone body metabolism - a protective adaption bought about by the pregnancy to ensure adequate fetal glucose supply (so called accelerated ketogenesis(1,2)). In this report we present 4 cases of 'euglycemic ketoacidosis' in significantly unwell pregnant women, without pre-existing diabetes, presenting over a 12 month period to our institution\

Summary of clinical and biochemical features of 3 cases of 'euglycemic ketoacidosis' in unwell pregnant women, without pre-pregnancy diabetes, presenting over a 12 month period to MHW, a tertiary obstetric hospital in Melbourne. *Case 4 represents ketosis without ketoacidosis.

Table 1: Clinical & Biochemical characteristics of cases

	Case1	Case 2	Case 3	Case 4*
Age	35	33	27	37
Gravida/Parity	Primi	G6P3	Primi	Primi
Gestation at presentation (w)	35	30	31	22
Diagnosis of GDM this pregnancy	Yes	Yes	No	Yes
Duration of unwell prior presentation	2 days	3 days	2 days	Half a day
vomiting	+	+	+	+
Heart Rate	130bpm	130bpm	120bpm	112bpm
tachypnoea	32	28	22	30
other				Turners syndrome /donor egg
Blood ketone	5.2	6.2	6.3	5.4
Blood glucose (mmol/L)	4.0	3.3	6.0	7.0
pH	7.26	7.28	7.26	7.40 pCO24
Lactate (mmol/L)	0.9	1.1	4.6	0.8
HCO3 (mmol/L)	12	7.9	7.0	14
Management				
dextrose	Yes	yes	yes	10%
insulin	IV Infusion	IV Infusion	IV Infusion	-
Fetal assessment with CTG/biophysical profile	stable	stable	stable	stable
Precipitant identified	None	H1N1 influenza	Pyelonephritis	Self imposed

Conclusion: The above cases demonstrate that prompt diagnosis and treatment with intravenous 10% dextrose ± insulin infusion, coupled with fetal surveillance and close monitoring of metabolic status (including serial quantitative blood ketone and serum electrolyte measurement) can lead to resolution of the maternal euglycemic ketoacidosis after approximately 6 hours and the avoidance of preterm and or emergency delivery.

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3.Scholte JB,Boer WE, A case of non diabetic ketoacidosis in third term twin pregnancy , J Clin Endocrinol Metab.2012 Sep ;97(9):3021-4.

ABSTRACT INDEX

TRADE DIRECTORY

NDSS DIABETES IN PREGNANCY PROJECT (AUSTRALIAN DIABETES COUNCIL)

www.australiandiabetescouncil.com

The National Diabetes Services Scheme (NDSS) is an initiative of the Australian Government administered by Diabetes Australia. The NDSS aims to help people with diabetes to understand and manage their condition, to reduce the impact of diabetes and improve health outcomes. People who register for the NDSS have access to quality diabetes self-management support and education services, as well as subsidised products to make their diabetes management more affordable.

The NDSS Diabetes in Pregnancy Project is funded as an NDSS National Development Program to raise awareness about the importance of pre-pregnancy planning for women with type 1 and type 2 diabetes and optimal diabetes management during pregnancy.

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DELEGATE LISTING

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