

## **Stillbirth Summit 2011**

Organised and funded by Star Legacy Foundation

Minneapolis: 6-8 October 2011

Between the 6<sup>th</sup> the 8<sup>th</sup> of October, a varied collection of researchers, stillbirth advocates and parents gathered together in sunny Minneapolis to discuss novel ideas relating to stillbirth risk and management. The main objectives of the forum were to discuss emerging ideas in the field of stillbirth research and to identify resources and opportunities for supporting stillbirth families.

### ***Format of the meeting***

The unique format of the meeting was the “roundtable” of researchers, with a large group of women and families who had been affected by stillbirth and a number of parental organisations present. A much larger amount of time was allowed for open discussion which enabled issues to be explored in greater depth than usually occurs at traditional “scientific” meetings. There was invaluable input from parents, who ensured that the meeting had energy and focus.

### ***Content***

#### ***The placenta and the cord***

A number of presentations discussed the importance of placental pathology. The placenta is the lungs and stomach for the baby while in utero - in some cultures the placenta is considered to be an integral part of the baby and is buried in a place of significance. A number of researchers behave us to pay attention to the placenta and to look to it to provide clues not only to the death of a baby but as a way of predicting poor outcome.

#### ***Placental volume***

Dr Harvey Kliman persuasively argued the importance of the relationship between placental size and pathology and risk of stillbirth. Specifically, he suggests that placental volume may predict birth weight and by association, outcome of pregnancy. Dr Kliman has developed a simple method for estimating placental volume in utero (that can even be downloaded as an iphone app) and recommended that placental volume be calculated at each ultrasound scan.

*The placenta: potential early warning system*

Dr. Alex Heazell's talk followed on well from Dr Kliman's and suggested that through the use of biomarkers of placental function in early pregnancy, the placenta may help to predict babies of greater risk of stillbirth. Dr Heazell also argued for the importance of placental histology and placental research in order to develop a greater understanding of the cause of stillbirth.

*Placental pathology and the cord*

Another advocate of the importance of the placenta and the cord was Dr Mana Parast who hypothesised that non-acute cord accidents can lead to loss of placental function through the involution of vessels in the terminal chorionic villi. Dr Parast has published a number of papers that have described the association between cord abnormalities and related placental histology. She also commented on the low number of clinicians trained in placental pathology.

*Cord around the neck syndrome*

Dr Morarji Peesay reminded us of the frequency of nuchal cords – in more than 25% of pregnancies. Dr Peesay put forward the argument that nuchal cords are not only associated with fetal death but also other long term poor outcomes (such as cerebral palsy).

*Cord torsion and entanglement*

Dr Jason Collins, a passionate and dedicated believer in the role of cord issues in the outcome of pregnancy, spoke of the lack of attention paid to cord issues amongst researchers and clinicians. Dr Collins suggested that there should be routine antenatal surveillance of the cord (including cord torsion and cord entanglement) and that antenatal management should be responsive to these findings. Specifically, he suggested that this management should include home monitoring of the fetal heart rate. Dr Collins' talk generated considerable debate about the importance of conducting robust research that can be peer reviewed and disseminated in order to convince other clinicians of the potential benefit of his approach to the management of cord issues in pregnancy.

*Thrombosis*

Dr Uma Reddy discussed the complex findings regarding the role of thrombosis in stillbirth risk. There still appears to be little consensus as to the significance of thrombophilia in perinatal outcome. The discussion also considered the differences between homozygous and heterozygous clotting issues and their treatment. Dr Reddy's presentation highlighted the importance of study design in the interpretation of findings relating to risk.

### *Infection and inflammation*

Dr James McGregor reminded us how little we still know of the impact of infection and inflammation on fetal wellbeing. However, there are well known examples that treatment of infection prevents stillbirth. Examples include syphilis, Group B Strep, malaria. He also commented on the role of invasive procedures in the spread of infection.

### *Low blood pressure*

Dr Jane Warland presented findings from her research on maternal blood pressure in pregnancy and the association between low blood pressure and increased risk of stillbirth- an under explored association. It was felt that this was an area of interest and that definitions of maternal hypotension need to be developed and that there should be further exploration in this area.

### *Reduced fetal movements*

The role of maternal perception of fetal activity was discussed at various times during the summit. Dr Alex Heazell presented evidence of the association between reduced fetal movements and fetal compromise and presented findings from his study on placental changes in women who have presented with reduced fetal movements. Dr Heazell argued that increasing maternal awareness of fetal activity may be a way of reducing stillbirths. General discussion also took place on the significance of frantic fetal movements prior to stillbirth, another under explored area of interest.

### *Sleep*

Dr Louise O'Brien, a sleep physiologist, presented a persuasive argument for the impact of sleep disturbance in pregnancy. Sleep disordered breathing has been associated with maternal hypertension, gestational diabetes and obesity; all associated with poor perinatal outcome. Dr O'Brien also emphasised how little research has been conducted on the impact of sleep on perinatal outcome. This talk was followed by Tomasina Stacey and Dr Ed Mitchell who presented their novel findings on the protective nature of maternal left sided sleeping position on the risk of stillbirth. Professor Mitchell discussed the parallels with SIDS research and the potential impact on stillbirth rates if this hypothesis is confirmed, but emphasised the need for this study to be replicated before the development of any public health campaigns.

### **Overview**

This forum allowed for the discussion and exploration of a number of issues relating to stillbirth that have either been given minimal attention, or are emerging hypotheses. A common theme throughout the conference was that there are many factors that can contribute to a "vulnerable

baby". The severity and number of these issues present may have a significant impact on the outcome of the pregnancy. There was healthy and robust debate, both between the presenters and the attendees and between the researchers themselves which brought a richness to the meeting. Alongside the energy and passion to see a real change in the devastating number of babies that die before birth, there was a moderating voice from a number of the researchers; for the need for robust, peer reviewed evidence to be generated before significant recommendations for change in practice, or public health campaigns are launched.

### **Bonus Day**

The third day of the event focused on ways to advocate and care for grieving families. Topic included Advocating for your unborn child, Parenting the subsequent child, How fathers and grandparents grieve, Caring with Intention, Healing through Creativity, and Caregiver and Patient Relationships. Time was provided for participants to network with each other and the various organizations present – many of whom helped to sponsor the event.

### **Outcomes**

The proposed outcomes from the Stillbirth Summit include the following:

- Internet survey of mothers to evaluate many of the issues discussed at this event. Study will be based on New Zealand program with added topics. Initial stages to be planned by Dr. Ed Mitchell, Sherokee Ilse, Candy McVicar, Shauna Libsack, Dr. Louise O'Brien, Lindsey Wimmer, and Suzanne Pullen.
- Dr. Peesay will initiate discussions with NIH and other institutions to consider development of a stillbirth risk screening tool.
- Dr. O'Brien and Dr. Warland to look into development of sleep lab studies
- Discussed hope that similar or cooperative presentations representing these topics can be submitted for inclusion in upcoming stillbirth conferences
- Ability to add pregnancy care information to Group B Strep Internationals pregnancy calendar
- Parental groups will discuss methods to raise funding needed for further research
- Researchers began discussions for inclusion of discussed topics into their work and/or working with each other to develop new studies
- Encourage involved parties to advocate for patient education of fetal movement and other current studies. Raise awareness with legislative bodies. Encourage autopsies of at least the cord and placenta of all stillborn children.
- Dr. McGregor and Dr Collins to work on literature review

### List of speakers

Harvey Kliman, MD, PhD;	Yale University School of Medicine
Uma Reddy, MD	Eunice Kennedy Schriver National Institute of Child Health and Human Development
James A. McGregor, MDCM	University of Southern California Keck School of Medicine
Alexander Heazell, MBChB, PhD, MRCOG	University of Manchester
Jane Warland, RN, RM, DipAppl Sc, PhD, Grad Cert Ed	University of South Australia
Jason Collins, MD	Pregnancy Institute
Mana Parast, MD, PhD	University of California San Diego
Morarji Peesay, MD, FAAP	Georgetown University Hospital
Louise O'Brien, PhD	University of Michigan
Tomasina Stacey, RM, MPH	University of Auckland
Edwin A. Mitchell, MD	University of Auckland

### List of organisations represented

Star Legacy Foundation  
Babies Remembered  
First Candle  
Health Partners  
Pyramid of Change  
1<sup>st</sup> Breath  
Loss Doulas International  
My Forever Child  
Baby Bloom  
Missing GRACE  
Group B Strep International  
Faces of Loss/Faces of Hope  
ISPID  
Catholic Health Sisters Hospital Foundation  
March of Dimes  
Music by Naomi  
Project BEAR  
Angel Names Association  
The Lancet  
A Place to Remember