The OptiDOSE Study:

Optimising Antenatal Steroid Dosing for Women at Risk of Delivering Preterm

RESEARCH PROJECT – Support Opportunity

THE NEED

Being born too early is the leading cause of neonatal death in Australia today. The reason that many preterm babies either die, or suffer from life-long diseases, is because the preterm lung is not ready to support the transition to life outside the womb.

Of the few treatments available to save preterm babies, antenatal steroids are among the most widely used. They act by rapidly maturing the preterm lung, and are given to millions of women around the world each year.

However, despite their wide use, the therapeutic potential of antenatal steroids has never been fully realised. Antenatal steroids are effective in only 50% of cases, and concerns remain about the ill effects of excessive steroid exposure on fetal growth and the mother's ability to regulate glucose.

SUPPORT OPPORTUNITY

In nearly 50 years of use, no one has asked the seemingly obvious question, "what dose of steroids should we give to women at risk of delivering a baby preterm".

A large, arbitrary dose of steroids is given as a 'one-size-fits-all' treatment. As a result, a 50 kg woman in the 25th week of pregnancy is today given the same dose of potent steroids as a 100 kg woman in the 35th week of pregnancy.

In a world-first breakthrough, researchers from the Women and Infants Research Foundation have discovered that it is possible to reduce the dose of potent steroids required to mature a preterm baby's lung by 80%. The Foundation is now seeking support for its researchers to generate the preclinical data required before the clinical trial phase of the OptiDOSE study can be performed.

THE IMPACT

If the results of the Foundation's initial studies are borne out, treatment success rates will be improved, and the risk of adverse effects on both mother and baby will be significantly reduced.

The OptiDOSE study has the potential to radically change global obstetric practice, and meaningfully improve outcomes for the millions of women and their babies who are treated with antenatal steroids every year.

SUPPORT OPTIONS

Led by Associate Professor Matt Kemp, the OptiDOSE study is seeking a total of $150,000 to deliver its three stages:

Stage One ($30,000): To help support initial studies to demonstrate that low-concentration fetal steroid exposures are solely responsible for maturing the preterm lung.
Stage Two ($50,000): To help support studies demonstrating the efficacy and safety of steroids delivered by an oral route, rather than by injection.
Stage Three ($70,000): To help support studies demonstrating the long-term benefit of optimised antenatal steroid therapy to preterm babies.

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