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Media release

Landmark study optimises steroid use in pregnancy

Friday, 8 July 2022

A ground-breaking research program aiming to optimise steroid use in pregnancy has generated important preclinical data showing how the World Health Organization's gold-standard antenatal steroid (ANS) treatment regime for preterm infants may be improved.

The long-standing collaborative Western Australian-based program, involving researchers from the Women and Infants Research Foundation, the National University of Singapore, Singapore, Cincinnati Children's Hospital, USA, and Tohoku University Hospital, Japan, has sought to improve the lung maturation of preterm infants and minimise potential side effects to both mother and baby.

Findings published in the prestigious medical journal, *The American Journal of Obstetrics & Gynecology*, have shown that in preterm lambs, using just 1/3 of the current steroid dose is highly effective in improving lung function, but conveys significantly fewer side effects for neonates when compared to current dosing treatments.

The use of steroid therapy in pregnancy to rapidly mature the fetal lung, making breathing easier and safer for preterm babies, has been responsible for saving the lives of countless thousands of preterm babies.

WIRF Acting Chief Scientific Director and Associate Professor in the Department of Obstetrics and Gynaecology, National University of Singapore, Professor Matt Kemp said the findings represent a major breakthrough in the field of obstetrics.

"Our study has aimed to test whether the low-dose ANS regimen proposed as part of the WHO's ACTION III Trial would achieve preterm lung maturation equivalent to that of the existing WHO regimen, but with reduced risk of adverse outcomes," Professor Kemp said.

"Whilst we eagerly await the clinical trial data, the findings of this study strongly indicate that a low-dose betamethasone treatment regimen will likely perform better than the current, higher-dose dexamethasone phosphate regimen."

"This work underscores the need for further optimization of lower-dose treatments which might be effective in driving fetal lung maturation with a reduced risk of maternal and fetal adverse effects. This work also highlights what can be achieved with strong international research collaboration".

This work, supported by the Channel 7 Telethon Trust, the Women and Infants Research Foundation, the Department of Health, Government of Western Australia, the Stan Perron Charitable Foundation, and the National University of Singapore, is set to benefit the millions of families worldwide who will have babies born too soon.

'Low-dose antenatal betamethasone treatment achieves preterm lung maturation equivalent to that of the WHO dexamethasone regimen but with reduced endocrine disruption in a sheep model of pregnancy', can be viewed online at [The American Journal of Obstetrics & Gynecology](#).

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Media opportunity: WIRF Acting Chief Scientific Director, [Professor Matt Kemp](#), is available for follow-up media comment.

Background:

The Women and Infants Research Foundation

The Women & Infants Research Foundation is one of Australia's leading medical research institutes dedicated to improving the health of women and infants. We focus our research and programs across four principal areas: the prevention of preterm birth, gynaecological cancers, women's mental health, and the development of an Artificial Womb. Our research and programs have directly contributed to a number of improved clinical practices and health outcomes.