



women & infants
research foundation

Media Release

Steroid use in pregnancy study reveals breakthrough finding

Monday, 9 September 2019

A pioneering research program aiming to optimise steroid dosing in pregnancy to mature the fetal lung is set to benefit the millions of families worldwide at risk of delivering preterm.

The long-standing collaborative Western Australian-based program, involving researchers from the Women & Infants Research Foundation (WIRF), Cincinnati Children's Hospital, USA, and Tohoku University Hospital, Japan, has used a fetal sheep model to determine the durability of antenatal steroid effectiveness.

Findings published this week in the prestigious medical journal, *The American Journal of Obstetrics & Gynecology*, have shown that a single low dose of steroid treatment should be sufficient for women delivering within 48 hours of treatment.

WIRF's Local Chief Investigator, Associate Professor Matt Kemp, said the use of steroid therapy in pregnancy to rapidly mature the fetal lung has been responsible for saving the lives of countless thousands of preterm babies.

"However, treatment effectiveness and durability likely depends on the fetal steroid exposure, and the treatment to the time of expected preterm delivery," he said.

The lungs of extreme premature babies are often too structurally and functionally under-developed for the baby to breathe easily, and those born at the earliest gestational ages may suffer from severe and life-long problems such as cerebral palsy, developmental delay or blindness.

Assoc Prof Kemp said the findings represent a clear pathway to optimising health outcomes in cases where preterm birth is inevitable.

"We have demonstrated in a sheep model that the durability of lung maturation from antenatal steroids depends critically on the duration of exposure to the unborn baby," Assoc Prof Kemp said.

"This study expands on our work in understanding how fetal steroid exposure can change the durability of preterm lung maturation and reinforces that acute, high concentration steroid exposure do not convey additional benefit. Given the strong link between excess fetal steroid exposure and growth restriction, and the global use of this drug, these results are already impacting the field of antenatal medicine.

"We have found that the duration of fetal steroid exposure can be adjusted for the desired period of treatment effectiveness, and in women expected to deliver within 48 hours, a single dose of antenatal steroid should be sufficient."

This work has been supported by GlaxoSmithKline-Save the Children, the Bill and Melinda Gates Foundation, the Channel 7 Telethon Trust and the Women & Infants Research Foundation.

'The Duration of Fetal Antenatal Steroid Exposure Determines the Durability of Preterm Ovine Lung Maturation', can be viewed online at *The American Journal of Obstetrics & Gynecology* here: [https://www.ajog.org/article/S0002-9378\(19\)31061-0/pdf](https://www.ajog.org/article/S0002-9378(19)31061-0/pdf)

ENDS



women & infants
research foundation

Media Release

Media contact: Richie Hodgson, 0408 128 099, richie@wirf.com.au

Media opportunity: Local Chief Investigator, [Associate Professor Matt Kemp](#), is available for interviews.

Background: 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 three principal areas: the prevention of preterm birth, gynaecological cancers, and women's mental health. This research and programs have directly contributed to a number of improved clinical practices and health outcomes.