



WIRF's Associate Professor Matt Kemp

Steroid study reveals breakthrough finding for mothers

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 has used a fetal sheep model to determine the durability of antenatal steroid effectiveness.

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.

Findings have shown that a single low dose of steroid should be sufficient for women delivering within two days of treatment.

WIRF's Local Chief Investigator, Associate Professor Matt Kemp, explained that 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.

Findings have revealed 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 adequate.

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.

The findings represent a clear pathway to optimising health outcomes in cases where preterm birth is inevitable.

This work has demonstrated that the durability of lung maturation from antenatal steroids depends critically on the duration of exposure to the unborn baby.

The 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.

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