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## **Deliveries at early term gestation: A view from the NICU**

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Wilmink et al<sup>1</sup> report an increased risk of neonatal respiratory morbidity accompanying caesarean birth at early term gestations. Our recent experience of three infants admitted to our tertiary neonatal intensive care unit (NICU) within a two-week period, all born via elective caesarean section under regional anaesthesia without antenatal steroid administration, highlights that this morbidity may be severe:

### **Case 1**

A G3P2 37-year old woman underwent elective repeat lower uterine segment caesarean (LUSCS) at 37+1 weeks' gestation. The pregnancy was complicated by a low-lying placenta on imaging at 31 weeks, but with no antepartum bleeds. A 2.8 kg male infant was delivered in good condition, but became hypoxic and tachypnoeic after one hour. There was radiological evidence of both retained fetal lung fluid and respiratory distress syndrome

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(RDS). The infant required endotracheal intubation, mechanical ventilation, two doses of surfactant, umbilical line placement, sedation, and bladder catheterisation. He remained mechanically ventilated for two days, with a nine day admission to the neonatal unit.

## **Case 2**

A G3P1 32-year old woman underwent elective repeat LUSCS in a regional hospital at 38+3 weeks' gestation. A 2.8 kg male infant was delivered in good condition, but developed respiratory distress 20 minutes later. He deteriorated rapidly, requiring endotracheal intubation, surfactant and ongoing mechanical ventilation, and air retrieval to our NICU. He developed a large pneumomediastinum, hypoxia and acidosis, requiring high-frequency oscillatory ventilation, sedation and muscle relaxation. A peripheral arterial line, umbilical venous line, bladder catheterisation, fluid boluses and inotropes were required to manage hypotension. He remained mechanically ventilated for four days, and was transferred back to his local hospital after eight days.

## **Case 3**

A G2P1 41-year old woman underwent elective repeat LUSCS in a private metropolitan hospital at 38+0 weeks' gestation. A 3.4 kg female infant was born crying, but became apnoeic at two minutes of age. She was resuscitated, admitted to her local nursery in ambient oxygen, and subsequently transported to our NICU with RDS. She developed a pneumothorax requiring needle thoracocentesis, endotracheal intubation, mechanical ventilation, intercostal chest drain insertion, two doses of surfactant, umbilical venous catheterisation, and bladder catheterisation. She remained mechanically ventilated for three days and was transferred back to her local hospital after six days.

Although antenatal corticosteroids prior to early-term pre-labour caesarean section are associated with reduced neonatal respiratory morbidity<sup>1,2</sup>, concerns remain regarding associations between antenatal corticosteroid administration and increased incidence of neonatal hypoglycaemia in the late-preterm population<sup>3</sup>, and with long-term impacts on educational outcomes in term infants<sup>4</sup>. These concerns have resulted in recommendations that antenatal corticosteroids be used with caution beyond 34 weeks' gestation until safety is proven<sup>5</sup>. Thus, timing of delivery is currently the most important modifiable risk factor for poor neonatal respiratory outcomes at early-term gestations. In light of the increasing evidence that birth at early-term gestation is itself associated with higher risks of poor long-

term neurodevelopmental<sup>6</sup> and metabolic<sup>7</sup> outcomes, we would urge practitioners planning caesarean deliveries before 39 weeks' gestation in the **absence** of a medical indication, to consider aligning their practice with current RANZCOG guidance<sup>8</sup>.

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