

Fetal Obstructive Uropathy Oligohydramnios and Neonatal Management

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- Antenatal Options and Counselling
- Effects of oligohydramnios on the lung
- Ventilatory management
- Prognosis

Antenatal Counselling

- Prediction of lung volume
- AFI vs Deepest pool
- Duration of oligohydramnios

Antenatal Options

- PLUTO (Morris et al Lancet 2013)
- Survival to 28 days
- Poor recruitment 31 babies (plan 150)
- 8 shunt babies (/16) survived
- Only 2 babies alive at 2 years

Amnioinfusion

- Amnion study: 56 mothers: preterm ROM
- 4/28 survived without major problems at 2 years
- Further studies needed

Effects on the lung

- Importance of Fetal Breathing Movements
- Role of platelet derived growth factors, TGF beta, VEGF. Cell signalling
- Outcome depends on embryonic stage. If oligohydramnios before 26 weeks 80% respiratory failure

Clinical effects

- Hypoxic respiratory failure
- Acidosis: compounded by renal issues
- Increased air leaks
- PPHN
- Skeletal issues

Ventilatory Strategies

- Gentle if possible!
- Increased use of permissive hypercapnia
- Role of HFO?

Nitric Oxide in Pulmonary hypoplasia

- Trials very low quality
- Chook et al 12 preterms: all control arm died
- 2/6 Nitric arm died
- Subsequent Case reports/ case series

Outcome

- Difficult to be clear
- Remain unconvinced about improvements!
- Issues around denominator

Ethics

- Whilst it may be possible to manage the lungs- do we need clearer evidence that we are improving prognosis: ND/ later prognosis
- Even with case selection: long term morbidity
- Need to use RCTs and Clinical Registries

Summary

- Predictors of outcome antenatally need to be carefully considered
- Guarded antenatal counselling: need to be realistic
- Promising role of HFO and nitric
- Neonatologists need clearer outcome studies with long term meaningful outcomes and a proper denominator