Neonatal perspective on obstetric MR

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Outline

• No need
• Does not change management
• Normal outcome
• Distresses parents
• Information can be gained postnatally
Need for neonatal perspective?

- No need
- Does not affect management
- Distresses parents
- Information can be gained after birth
Need for neonatal perspective

- Improved antenatal diagnosis
- Earlier in gestation
- Improved neonatal survival
- Improved outcome
- New therapies
Neonatal role in fetal medicine

- MDT discussion on diagnosis and outcome
- Meeting and counselling women
- Supporting pregnancy choices
- Planning delivery and postnatal care
- Outcome data for audit
Organisation of neonatal care

- Neonatal networks
- Neonatal transport
- Regional and network specialist services
Important questions

- Timing and place of delivery
- Postnatal place of care
- Reserve a neonatal cot
- Specialist staff at or nearby for delivery
- Immediate investigations and surgery
- Managing clinical team
Role of neonatology in fetal medicine

- 4000 Fetal medicine referrals
- 5000 deliveries - 41 cot neonatal unit
- 5 MDT fetal medicine clinics (4 NICU cons)
- Monthly regional videoconferencing
- Annual meeting with Fetal MR team
- Rolling audit programme on outcome
- Representation on regional fetal medicine group
Role of fetal MR for neonatology

- Better information for women and families
- Improving choice for pregnant women
- Supporting end of life choices and care
- Optimising post mortem analysis
- Research
- Common clinical systems: CNS & Chest
Continuing pregnancy choices

- Choices in continuing or ending a pregnancy
- Early and late termination
- Continuing a pregnancy with planned palliative care

A. the continuance of the pregnancy would involve risk to the life of the pregnant woman greater than if the pregnancy were terminated.

B. the termination is necessary to prevent grave permanent injury to the physical or mental health of the pregnant woman.

C. the pregnancy has not exceeded 24 weeks and the continuance of the pregnancy would involve risk, greater than if the pregnancy were terminated, of injury to the physical or mental health of the pregnant woman.

D. the pregnancy has not exceeded 24 weeks and the continuance of the pregnancy would involve risk, greater than if the pregnancy were terminated, of injury to the physical or mental health of any existing children of the family of the pregnant woman.

E. there is a substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped.
Late termination of pregnancy

- Late terminations <2% of total
- Approx 150 per annum
- For all terminations >21+6 wks the method chosen should ensure that the fetus is born dead. - Abortion act
DoH strategies on palliative care
Perinatal palliative care
Palliative care should only be considered if the fetus or baby has a candidate condition

1. An antenatal or postnatal diagnosis of a condition which is not compatible with long term survival

2. An antenatal or postnatal diagnosis of a condition which carries a high risk of significant morbidity or death
Contribution of MR

- Supports clinical and legal decision making

- Moderate VM. Parents uncertain about late termination MR diagnosed VM+lissencephaly.

- ACC + midline tumour MR diagnosed ACC+lipoma

- Multiple anomalies. Mother uncertain about active care
Central Nervous system

- Weekly MDT fetal medicine CNS clinic
- Neonatology, Neurology, Neurosurgery
- Published outcome data
- 6 yr review of service
Total TOP and PM per year

Total post mortems 38

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Final Fetal Medicine Diagnosis

- Isolated VM: 45 (21%)
- VM + ACC 11 VM+ others: 37 48 (22%)
- Resolved mild VM: 28 (13%)
- encephalocoele, anencephaly: 30 (14%)
- Cysts: 10 (5%)
- Isolated Posterior Fossa abnormalities: 11 (6%)
- Others: 43 (20%)
Contribution of MR

• Support USS diagnosis
• Supports decision making significant risk
  – Additional CNS anomalies
  – Developmental changes
  – Location of anomaly
• Alternative or additive to post mortem
  – MaRIAS study A comparative study with conventional autopsy S Thayyil
Chest

- USS for growth ↑BMI. USS found oligohydramnios and ?CPM. Difficult USS and referred for MRI.

- MR diagnosed CDH
Contribution of MR

- Differentiate between chest anomalies
- Accurate counselling
- Allows surgeons to plan care
- Allows neonatologists to plan care
Role of fetal MR for neonatology

• Better information for women and families
• Improving choice for pregnant women
• Supporting end of life choices and care
• Optimising post mortem analysis
• Research
Gaps

• Inconsistencies in opinion on role of, access to and interpretation of fetal MR

• Inconsistencies in its role in pregnancy choices

• Research in CNS development, added value of MR and psychological sequelae of MR during pregnancy
Future development

- Standardised network service for fetal and neonatal MRI
- Fetal and neonatal MR expertise at regional fetal and neonatal units
- Link with national fetal MR centres
- Standardised reporting
- Research
Post natal Follow up of VM

• Follow up at 1 and 2 years respectively
• Mild VM (data available for 30) –
  1 missed Lissencephaly (Global developmental delay)
  1 mild global developmental delay
• Moderate VM (data available for 13) -
  1 speech delay
  1 moderate global developmental delay
• Severe VM (data available for 8)
  3 mild Global developmental delay
  1 severe global developmental delay