INTRAPARTUM GUIDELINES

No.3 Amniotic Fluid Embolism

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1. Definition

Amniotic fluid that is forced into the maternal circulation via the uterus or placental site. This condition is more likely to occur during the latter part of the first stage of labour. A parturient woman may have a severe anaphylactoid reaction to amniotic fluid.

2. Predisposing factors include:

1. Hypertonic uterus
2. Polyhydramnios
3. Induction or augmentation of labour using oxytocic drugs or prostaglandins
4. Caesarean section
5. Ruptured uterus
6. Rapid or precipitate delivery
7. Multiparity
8. Severe amnionitis
9. Delivery of third stage in water

3. Clinical Assessment

The woman may present with the following signs and symptoms:

- **Sudden onset of respiratory distress.**
  The woman may be severely dyspnoeic and cyanosed with bronchospasm. This may lead to fulminating pulmonary oedema. Hypoxemia may cause the woman to be restless, have convulsions and lapse into unconsciousness.
- **Cardiovascular collapse.**
  The woman may exhibit tachycardia, arrhythmias and profound hypotension, which is unrelated to haemorrhage. This may result in cardiac arrest.
- **Haemorrhage.**
  Bleeding may occur secondary to DIC and uterine atony. DIC may develop once the initial episode has been overcome.
- **Convulsions.**
  These may present secondary to cerebral ischaemia, and progress to coma and death.

4. Diagnosis (presumptive)

- A clinical diagnosis may be made if these symptoms are present and no other explanation found.
- A chest x ray may confirm pulmonary oedema, enlargement of the right atrium, ventricle and a prominent proximal pulmonary artery.
- An ECG may show anomalies, which may precede cardiac arrest.

5. Management

It is vital that acute emergency action be implemented once diagnosis of the condition has been made. Most mortalities occur within the first few hours of onset (CEMACH 2007).

This may be a frightening experience for the woman's partner and it important that they are not left unsupported.

The following should be implemented where an amniotic fluid embolism is suspected:

- **Obstetric Emergency - call 2222**
- **Call Consultant Obstetrician/ Anaesthetist/ Haematologist**

1. Initiate cardiopulmonary ventilation. Make preparations for immediate delivery. If no response to advanced CPR within 5 mins, proceed with immediate delivery.
2. Administer oxygen at high concentration. If unconscious, intubate and ventilate with 100% oxygen.
3. Monitor fetal heart rate.
4. Correct hypotension - rapid volume expansion with inotropes.
5. Activate massive obstetric haemorrhage (MOH) protocol.
6. Blood transfusion - packed RBC, FFP, cryoprecipitate, platelets to treat bleeding secondary to DIC.

7. Treatment

- IV hydrocortisone 1 gram IV l-2 hourly
- Antibiotic prophylaxis (Augmentin 1 gram IV)
- Transfer patient to ITU for high dependency care and further investigations.

Amniotic Fluid Embolism is reportable to UKOSS (via Dr Imogen Montague Consultant Obstetrician and Gynaecologist)

7. Record Keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG.
All entries must have the **date and time** together with **signature and printed name.**

Monitoring and Audit

Auditable standards:
Please refer to audit tool, G:\Maternity\CNST2013\Audit notes database
Reports to:
Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations from audit
Frequency of audit:
Annual
Responsible person:
F1 / F2

Cross references

Antenatal Guideline 31 - Maternity Hand Held Notes, Hospital Records and Record Keeping
Antenatal Guideline 44 - Guideline development within Maternity Services

References

Lewis G (Ed) 2007. **The Confidential Enquiry into Maternal and Child Health (CEMACH). Saving Mothers' Lives: reviewing maternal deaths to make motherhood safer – 2003-2005.** The Seventh Report on Confidential Enquiries into Maternal deaths in the United Kingdom. London: CEMACH

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