Massive Obstetric Haemorrhage

A Multidisciplinary Approach

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Massive Obstetric Haemorrhage

- A medical emergency
- Second direct cause of maternal mortality
- Condition deteriorates rapidly
- Difficult to reverse once limit is exceeded
Massive Obstetric Haemorrhage

- Warrants particular attention in obstetric risk management
- High index of alertness and effective management is crucial
5 elements in management
Obstetrician

• Assessment of patient condition
  – General condition, BP, pulse, revealed blood loss

• Assessment of blood loss
  – Estimation of blood loss is notoriously difficult & inaccurate

• Control bleeding
  – Manual pressure, oxytocic, operative procedures
Anaesthetist

- **Resuscitation**
  - Maintenance of haemodynamicaemic status of patient
  - Fluid & blood product replacement
- **Estimation of blood loss**
  - More experienced in blood loss estimation
- **Anaesthesia**
  - Induction a & maintenance of anaesthesia
- **Drug administration**
Operating Theatre

- Preparation for emergency operation

- Assistance in operative procedures
  - Scrub nurse to conduct operation
  - Assist in administration of anaesthesia
  - Assist in fluid, blood product and drug administration
Radiologist

- Control of haemorrhage
  - Cannulisation of pelvic vessels
  - Embolization of pelvic vessels to control bleeding
Paediatrician

• Resuscitation of newborn
  – Stand by delivery
  – Immediate resuscitation of newborn
  – Escort newborn to NICU
• In such emergency situation, it appears important to:
  
  – Streamline the workflow

  – Co-ordinate the efforts of different specialities
Emergency drill

- A modal case of massive obstetric haemorrhage

- Participating departments:
  - Obstetric Department
  - Department of Anaesthesia
  - Operating Theatre
  - Interventional Radiology
  - Paediatric Department
Emergency drill

- The management workflow was testified during the emergency drill
Obstetric Hemorrhage Drill

Profuse Bleeding (A/N or P/N)

2 large bore IV lines

Doctor

Inform
- Anaesthetist (6202) for TAH

Alert
- Radiologist (6289/2550) for ± Embolization

Nurse

Communicate with OT staff (6174 / 7622 / 7588) for
- Em. Total Hysterectomy
- Possibility of Embolization ±
- Designated OT table for interventional radiological procedure and may require bigger theatre

OT call case ± Anaesthetist pre-op visit

OBS Nurse escorts the case to OT

OTA prepares theatre and table

Patient arrives OT (D4/2,3 or D2/1)

TAH in progress
Patient in shock / Bleeding un-controllable

Doctor

Inform
- Radiologist x Embolization

OBS Nurse call for help from OT Nurse

Contact Relative to notice progress & condition

CVP, A-line, Blood & Blood Products, Resuscitation

Re-positing of patient for embolization

Post-op arrange ICU Bed
Aims

• The drill aims to:
  – Identify blind spots
  – Identify areas for improvement

• To clarify the role in participation of members of different specialities

• Streamline the protocol workflow
Role clarification

• An in-charge person for each role:
  – Obstetricians
  – Anaesthetists
  – Midwives
  – OT nurses
Role clarification

• Obstetrician:
  – IV lines and resuscitation
  – Inform anaesthetist
  – Alert radiologist
  – Escort patient to OT
Role clarification

• **Midwifies:**
  - Communicate with OT for bigger theater, designated OT table, manpower support
  - Contact relatives
  - Escort patient to OT
  - Assist obstetrician in OT
  - Assist paediatrician in resuscitation
  - Arrange ICU
  - Event documentation
Role clarification

• OT Nurse:
  – Assist anaesthetists in induction of anaesthesia
  – Assist in blood & fluid replacement
Streamline Workflow

- Clarify emergency C/S booking procedure
- Clarify procedure for booking embolization
- Clarify procedure for informing paediatrician

- Install a suitable OT table
- Designated Dect phone for communication
- Set up clear notice on dosage of medications
Clinical application

• Involved staffs well informed & familiarized with the workflow
• Necessary accessory facilities installed
• Already applied in a real clinical situations
• Significant improvement in management effectiveness observed.
Conclusion

- The multi-disciplinary approach offered timely and effective interventions in the management of massive obstetric haemorrhage.

- Essential in clinical and obstetric risk management.