MASSIVE OBSTETRIC HEMORRHAGE—

HOW TO TACKLE?

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Massive Obstetric Hemorrhage
What is it??

- Blood loss from uterus or genital tract > 1500ml
- Fall in Hemoglobin > 4g/dL
- Acute transfusion > 4 units blood
- Any blood loss seriously compromising life of patient
Massive Obstetric Hemorrhage

- Blood loss may be:
  - **Antepartum:**
    - Placenta previa
    - Abruptio placentae
    - Uterine rupture
  
  - **Postpartum**
    - Uterine atony
    - Retained products
    - Genital tract trauma
    - Uterine inversion
    - Coagulation disorder
Massive Obstetric Hemorrhage

Blood loss notoriously difficult to assess in Obstetrics----

- May be concealed

- Presence amniotic fluid makes accurate estimation challenging

- Hypotension is a late sign in the parturient as the compensatory mechanism has a large leeway
# Extreme Haemorrhage: Type of Delivery—Meta analysis

<table>
<thead>
<tr>
<th>Type of Delivery</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal vaginal</td>
<td>20%</td>
</tr>
<tr>
<td>Instrumental vaginal</td>
<td>8%</td>
</tr>
<tr>
<td>Elective caesarean</td>
<td>13%</td>
</tr>
<tr>
<td>Emergency caesarean</td>
<td>50%</td>
</tr>
</tbody>
</table>
# ASSESSING SEVERITY

<table>
<thead>
<tr>
<th>Loss in ml</th>
<th>Appearance</th>
<th>MAP</th>
<th>Heart Rate</th>
<th>Respiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-1000</td>
<td>Normal</td>
<td>80-90</td>
<td>&lt;110</td>
<td>normal</td>
</tr>
<tr>
<td>1000-1500</td>
<td>Clammy, sweating</td>
<td>60-80</td>
<td>120</td>
<td>tacchypnea</td>
</tr>
<tr>
<td>1500-2000</td>
<td>Clammy, collapsed</td>
<td>50-60</td>
<td>thready</td>
<td>shallow</td>
</tr>
<tr>
<td>2000-2500</td>
<td>Unconscious</td>
<td>&lt;40</td>
<td>Unrecorded</td>
<td>Air hunger, gasping</td>
</tr>
</tbody>
</table>
APPROACH TO SEVERE HEMORRHAGE

• Anticipate
• Prepare
• Recognize and resuscitate
• Mobilize assistance
• Communicate
• Diagnose
• Delegate and Intervene
RESUSCITATION

- High inspired oxygen
- Left lateral tilt if antepartum
- Adequate venous access (2), central line with Rapid infuser kit
- Pressure bags
- Crystalloid or colloid until blood available
- Replace blood; 1:1 if using colloid; 3:1 for crystalloid
- Vasopressors to maintain BP until circulating blood volume restored
Situation is a Count down in reverse

- Very clear about Management guidelines
- **ASK FOR HELP**
- Time in hand
- Resource setting
- Inform relatives
- ICU shift
- SOS shift with precaution to tertiary setting
MANY COMPLEXITIES IN Rx
WHAT TO DO IN A CRISIS

• Call for HELP
• Keep cool and follow the prescribed drill
• Central Line or second vein secured
• Send blood for investigation and matching
• Elevate legs
• Oxygenate and monitor, check saturation
• Crystalloid infusion along with colloid and blood
• Catheterize and again look for bleeding, its source, color and quantity
• Medical management in case of atony or coagulation defect
• Pack where indicated
• Surgical Intervention at the earliest

» ctd..........................
...WHAT TO DO IN A CRISIS

• Shift to Maternal intensive unit (MICU) / OT
• Involve Intensivist, Hematologist, Anesthetist and importantly an experienced Obstetrician
• Inform relatives and take high risk consent for required intervention
• Assess shock component
• Keep coagulopathy in mind and take immediate action to prevent cascade effects
• Blood component transfusion as per reports
• Strict input-output chart as per CVP
• Decide on intervention
ASSESSMENT IN ANTEPARTUM PATIENT

- Categorize the severity of shock P/BP/Respiration
- Uterine tone, contractions, fetal heart
- Irrespective of gestational age and plan immediate delivery (Cesarean) in morbid bleeds
- Have support mechanism in place
- Delivery should be done in OT
- NICU care
- ICU care for the mother
ASSESSMENT

• In post vaginal delivery look for ----
  - Situation, size and consistency of uterus
  - Absence think of inversion
  - Full bladder (catheterize)
  - Color, quantity of bleed, whether clotting or not
  - In case of atonia vigorous medical management
  - Packing of vagina in case of trauma till surgical management possible
INTERVENTION

• Reassess pt. by checking vitals and source of bleeding and R/0 coagulopathy

• In ante partum patient delivery is a mandatory for massive hemorrhage and decision based on clinical condition of patient (the route as per diagnosis)

• High risk consent with seriousness

• Consent for Cesarean hysterectomy taken with clear risks explained to relatives
MEDICAL MANAGEMENT

- Uterine massage alongwith
- Use of oxytocics
- Methylergometrine
- Misoprostol
- Prostodin
- Combinations of above
- Fluid and blood transfusion
MEDICAL MANAGEMENT OF DIC

• Keep DIC in mind when bleeding is excessive, it may result in cascade effect, and hence early intervention before patient destabilizes

• Important investigation: Hemogram, PT-INR, Plasma fibrinogen, fdp, PTTK and any other

• Fresh frozen plasma with PCV fraction

• Involve hematologist earlier

• Higher antibiotic

• Careful assessment before attempting surgical intervention

• High mortality
SURGICAL MANAGEMENT OF PPH

- Exploration under anesthesia with suturing of lower genital tract lacerations
- B-Lynch sutures, other tourniquet sutures
- Specific uterine Artery ligation
- Internal Iliac ligation
- Hysterectomy- sub total / total
MANAGEMENT OF INVERSION

- Look for inversion
- Shock out of proportion of blood loss
- Seldom massive hemorrhage
- Immediate reposition should be attempted by a trained obstetrician------if failed
- Shift to OT with due preparation for reposition under relaxant anesthesia
- Failure, then laparotomy and other standard methods done
PELVIC ARTERIAL ARCADE

common iliac
external iliac
umbilical
superior vesical
obturator
internal pudendal
middle rectal
internal pudendal (accessory)
superior gluteal
lateral sacral
inferior gluteal
COMMUNICATION

- Always remember to communicate clearly with relatives and keep discussions solemn.
- Be clear and don't vacillate
- Show empathy and concern
- Be patient in cases of handling difficult relatives
AND THAT IS WHY WE LIFT ON THREE...
DOCUMENTATION

• All important events to be chronicled
• Effectively writing about criticality especially when patient arrives or deteriorates
• Be concise and precise
• Fluid balance chart
• Assessment of loss should not be vague
IN CONCLUSION

- Massive hemorrhage occurs in 1-3% of obst cases
- 90% is postpartum
- Early recognition is important
- Atonia is a common cause but laceration can occur concomitantly, and hence should explore adequately with good exposure (anesthesia), and vision
- Should be trained in surgical interevention, with sound knowledge of Pelvic Anatomy
- DIC is a dreaded complication, usually as a result of or due to precedent cause
- Team effort in an adequate facility center
- Mortality >20% in various study