What the ...?! OK, now what?

Joanne Sivertson, MD, FRCSC
Jan 16, 2020
Outline

- “She seems to have 2 vaginas”
- “Ummm... is that placenta?”
- “Where is that blood coming from?”
“She seems to have 2 vaginas”
19yo G1P0 at 39w gestation in office for routine prenatal visit desiring membrane stripping.

On examination, redundant tissue seemed to persistently be present between my fingers.

Speculum examination was normal at first, but again at exam the tissue felt abnormal.

Speculum was performed with the blades positioned laterally.
Diagnosis: Longitudinal Vaginal Septum
Case presentation

- The septum was approximately 5mm in thickness and extended from the introitus to approximately 1cm below the cervix
- Further examination revealed 2 cervices, and the presenting part was palpable above the right cervix
- Membranes were stripped
Case presentation

- The patient entered labor spontaneously, but failed to progress beyond 6 cm
- Septal resection was performed
- The patient did not progress despite resection and required Cesarean Section
Longitudinal Vaginal Septum

- Many are asymptomatic (>50%)
- Presenting symptoms may include
  - Dyspareunia
  - Difficulty with bypassing, inserting, or removing tampons
- High association with uterine anomalies (88%)
  - This has greater impact on obstetrical outcomes and mode of delivery
- Follow up of anatomy, especially renal, should be arranged
Longitudinal Vaginal Septum diagnosed in labor

- Does not preclude vaginal delivery
- Management depends on
  - the thickness and elasticity of the septum and whether it is causing mechanical obstruction
  - any associated uterine anomaly
- May stretch or rupture to allow delivery
- May obstruct labor if thick enough
  - Infiltrate with local and separate with scissors in the midline
  - Suture the anterior and posterior aspects separately
“Ummm... is that placenta?”
Case Presentation

- 27yo G6P3 with limited prenatal care presents at approximately 26 weeks gestation with acute abdominal pain
- Fetal heart tracing normal
- Maternal hypotension and tachycardia
- Acute abdomen
- She is taken for emergency laparotomy
Case Presentation

- Hematoperitoneum is noted upon entry
- Placental tissue is visible on the exterior of the uterus
- Cesarean Hysterectomy is performed
Management of Invasive Placenta

- Cesarean Hysterectomy
  - Recommended as part of multidisciplinary approach
  - Risks to ureters, bladder and any adjacent/affected organs

- Conservative Management
  - May preserve fertility
  - Risk of ongoing or recurrent hemorrhage
Conservative Management of Invasive Placenta

- Enter uterus away from placental bed if possible to deliver the fetus
- Leave placenta in situ and ligate cord at insertion
- Do not administer a prophylactic uterotonic (may lead to partial placental separation)
- Close hysterotomy
- Stabilize and transfer to tertiary care hospital
Conservative Management of Invasive Placenta

- Other measures to control bleeding should not be performed prophylactically, but attempted if patient is bleeding:
  - Uterotonic drugs
  - Compression sutures
  - Intrauterine balloons
  - Uterine artery ligation/embolization
- Methotrexate has **not** been shown to be of benefit
- Tranexamic Acid not listed in management, but I would
Conservative Management of Invasive Placenta

- **Risks**
  - Death 0.3%
  - Severe vaginal bleeding 53%
  - Sepsis 6%
  - Secondary hysterectomy 19%
    - (median 39 days later)
  - Subsequent pregnancy 67%
    - Recurrent invasive placenta 20%
“Where is that blood coming from?”
Case Presentation

- 32yo G2P0 @ 39w4d in spontaneous labor
- Uncomplicated pregnancy
- Epidural at 4cm dilation - comfortable
- Obstetrics consulted for a deep complicated deceleration
- Good recovery of fetal heart - followed expectantly
- Failure to progress beyond 4cm and epidural no longer providing maternal comfort = C/S
Case Presentation

- Normal entry and hysterotomy
- Fetus delivered atraumatically
- Some excess bleeding, but uncomplicated uterine closure
- Upon checking adnexa and cleaning pelvic gutters, a football sized clot removed from left side of the abdomen
Case Presentation

- Uterus exteriorized and examined thoroughly
  - No active bleeding noted
- Ongoing collection of fresh blood, not in keeping with pooling of old blood
- Maternal hypotension and tachycardia noted by anesthesia
- General surgery consulted
- Pfannenstiel T’d for midline incision
Dx: Splenic Rupture

- Atraumatic or spontaneous splenic rupture
  - Accounts for 3-4% of all splenic ruptures
  - Most common cause: Malaria
  - Second most common cause: Pregnancy
- Occurs more commonly in
  - Third trimester or post partum
  - Multiple gestation
  - Advanced maternal age
  - Multiparity
Unclear Etiology of Spontaneous Splenic Rupture

- Changes in pregnancy that may predispose to rupture
  - Hypervolemia
  - Hypertension
  - Splenic enlargement
  - Diminished peritoneal cavity volume
  - Structural changes secondary to estrogen/progesterone
- Most cases require splenectomy
Principles of managing abdominal hemorrhage

- Identify source
  - Need exposure
  - Move systematically
- Stem flow
  - ? Cautery
  - ? Sutures
  - ? Clips
  - PRESSURE
Have a Plan!

- Massive Hemorrhage Protocol
  - Consensus paper originating out of Ontario was published in the CMAJ Open in 2019

- Pack and Send
Massive Hemorrhage Protocol

- “A regional massive hemorrhage protocol developed through a modified Delphi technique” by Jeannie L. Callum et. al.
  - Identifies key evidence-based principles for the development of a standardized regional MHP
  - Consensus paper originating out of Ontario
  - Published in the CMAJ Open in 2019
  - Series of 42 recommendations and 8 quality indicators
MHP Consensus Paper
Recommendations

- All hospitals should have a Massive Hemorrhage Protocol developed by a multidisciplinary team
- The protocol should consider available resources at the institution
  - Guidelines on which patients should be transferred to other facilities for definitive management and how this should be achieved
MHP Consensus Paper Recommendations

- A single protocol for all patients is recommended with guidelines for specific populations
  - Eg/ Obstetrical patients should be given fibrinogen earlier than later
- The protocol should be reviewed every 3 years
- If MHP is activated as an overhead announcement it should be called “Code Transfusion”
- Participating team members should have access to formal training and drills
MHP Consensus Paper Recommendations

- The protocol should have activation and termination criteria
  - Note is made that no criteria performs well at predicting need for massive transfusion
- The protocol should identify team members
  - How the lead physician is identified
  - Who will be responsible for blood component/sample transfer
MHP Consensus Paper
Recommendations

- The lab(s) should be notified of MHP activation
  - Critical results and coagulation parameters should be communicated verbally to the team
  - Priority should be given in testing to typing and screening to not exhaust type O blood supply
MHP Consensus Paper
Recommendations

- Suggestions to simplify MHP
  - Prelabelled uncrossmatched RBC units ready for immediate transfusion
  - Preprepared lab sample collection kits
  - Administration of PCCs and fibrinogen concentrate rather than plasma and cryoprecipitate
MHP Consensus Paper Recommendations

- Uncrossmatched RBCs should be available at the bedside within 10 minutes of activation of MHP
  - There is no threshold of units of O RBCs above which a switch to group-specific blood cells is prohibited
  - Switch to group specific blood products as soon as possible
  - Every 1 minute delay to the first pack of RBCs is associated with a 5% increase in the odds of mortality
- Only give Rh negative blood to women of reproductive age if blood type is unknown
Tranexamic Acid 1g should be administered as soon as IV access is achieved
- Reduces mortality in both trauma and PPH
- Initial management of the rapidly bleeding patient should begin with immediate RBC transfusion and then transfusions at an RBC:plasma ratio of 2:1
MHP Consensus Paper

Recommendations

- The protocol should state the minimum lab targets
  - Hgb >80 g/L
  - INR <1.8
  - Fibrinogen >1.5 g/L
  - Platelets >50x10⁹L
  - Ionized calcium >1.5 mmol/L
MHP Consensus Paper
Recommendations

- Patients should have their temperature measured every 15 minutes and measures in place to prevent hypothermia <36.0 ℃
  - IV fluids should be warmed
- The protocol should include a reversal strategy for commonly used oral anticoagulants
- Metrics should be tracked and reviewed for quality assurance
Initial management of the rapidly bleeding patient should begin with immediate RBC transfusion and then transfusions at an RBC:plasma ratio of 2:1

**Standard Protocol**
- Box 1 should contain 4 PRBCs
- Box 2: 4 PRBCs and 4 plasma
- Box 3: 2 PRBC, 2 plasma, and fibrinogen replacement (10U cryoprecipitate or 4g fibrinogen concentrate)
- Platelets (when stocked) should be transfused based on platelet counts

**Simplified Approach**
- Box 1 should contain 4 PRBCs
- Box 2: 4 PRBCs, 2000 IU Prothrombin Complex Concentrate, and 4g fibrinogen concentrate
- Box 3: As per standard approach?
- Box 4: Get platelets?
Resources

Resources

- Laufer, M.R. Congenital anomalies of the hymen and vagina. UpToDate, Barbieri, R.L. (Ed) UpToDate, Waltham, MA, 2019
Resources

- Resnik, R. & Silver, R.M. Management of the placenta accrete spectrum (placenta accrete, increta, and percreta). UpToDate, Barss. V.A. (Ed) UpToDate, Waltham, MA, 2019