Patient Blood Management
Gynecology

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Disclosures

• Advisory Board/Speaker’s Bureau:
  – Bayer International, Abbvie Canada, Actavis

• Research Grants:
  – Abbvie International, Bayer International, Watson Pharma
Case 1

- 32 yo G2P1
  - Known placenta previa, previous C-Section
  - Hb 98 g/L, ferritin 5 ug/L at 24 weeks GA

- Ultrasound at 28 weeks
  - Placenta Accreta!
Invasive Placentas

Based on degree of invasion

- **Accreta:** Placenta villi attached to the myometrium

- **Increta:** Placenta villi invade the myometrium

- **Percreta:** Placenta villi fully penetrate the myometrium and serosa and occasionally other organs (i.e. bladder)

Source: Google images. Original source not identified
INCIDENCE

Rise in Placenta Accreta is parallel to Rise in Cesarean Section

- Cesarean section
- Placenta accreta

1970's (1/4027) vs 1970's (32.8%)

1982 - 2002 (1/533)

Why the Concern?

- Blood or Blood Products – 90%
- Hysterectomy – 38%
- Maternal mortality – 7%
Clinical Relevance

- Delivery
- Placenta "stuck"
- Bleeding! (EBL is 3 - 5 L)
- DIC
- Hysterectomy
- Complications: transfusion, Injury, Death
- Long Term Complications
TEAM BASED Approach For Complex OB Surgery

AIM

Improve Maternal Outcome

- Anesthesiology
- Hematology & Blood Bank
- Intervention radiology
- Vascular surgery
- Gynecologic Surgery
- Urology
- Obstetrics + Imaging
- Neonatology
Take Home Msg – OB Surgery

• Complex Obstetrical Surgery is Increasing
• Requires a Team Approach

• Many Intraoperative Techniques exist to minimize bleeding

• Preoperative Optimization is ESSENTIAL
Case 2: Fibroids

• 32 year old with 3 year history of Heavy Menses
  – Large uterine Fibroids
  – Requests Myomectomy
  – Surgery in 2 weeks!!
  – Hbg 73 g/L, MCV 70
Uterine Fibroids Are Common

Cumulative incidence of fibroids, %

Prevalence of clinically relevant fibroids, %

Impact of Uterine Fibroids on Hysterectomy Rates in Canada

Age-standardized rate per 100,000 Population*

National hysterectomy rate in Canada: 320 per 100,000 women†

†Based on 2013 data: https://secure.cihi.ca/free_products/HI2013_Jan30_EN.pdf
Treatment Approaches for Uterine Fibroids

- Conservative
- Medical
- Surgical
- Interventional

Management Approach

**Heavy Menstrual Bleeding/Anemia**
- Amennorrhea
- Reduced need for transfusion

**Fibroid Shrinkage**
- Improve access, may allow MIS
- Reduce blood flow, less intraop blood loss

**Pelvic Pain/Pressure Symptoms**
- Improve QoL
- Treatment while waiting for surgery
Surgical Treatment Algorithm for Patients with Anemia

Timing of Surgery

- Emergency
  - With transfusion
  - Without transfusion
- Delay
  - Elective
  - Preoperative Optimization

Algorithm is based on faculty experience
Timing is Everything

• 3 year history of Heavy Menstrual Bleeding (Chronic condition)

• Question: Why not wait until the patient is optimized?
  – Better Outcomes
  – Less Morbidity and Mortality
Anemia is Associated with Increased Risk of Post-Operative Mortality & Morbidity

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Odds ratio (95% CI)</th>
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<tbody>
<tr>
<td>30-day postoperative mortality</td>
<td></td>
</tr>
<tr>
<td>Anemia vs. no anemia</td>
<td>1.42 (1.31 – 1.54)</td>
</tr>
<tr>
<td>Mild anemia vs. no anemia</td>
<td>1.41 (1.30 – 1.53)</td>
</tr>
<tr>
<td>Mod-severe anemia vs. no anemia</td>
<td>1.44 (1.29 – 1.60)</td>
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<tr>
<td>Composite post-operative morbidity*</td>
<td></td>
</tr>
<tr>
<td>Anemia vs. no anemia</td>
<td>1.35 (1.30 – 1.40)</td>
</tr>
<tr>
<td>Mild anemia vs. no anemia</td>
<td>1.31 (1.26 – 1.36)</td>
</tr>
<tr>
<td>Mod-severe anemia vs. no anemia</td>
<td>1.56 (1.47 – 1.66)</td>
</tr>
</tbody>
</table>

Preoperative Anemia

• Recognized as an important and modifiable risk factor for surgery

• Anemia ➔ mortality and resources

• Correction of anemia pre-surgery
  – How and when?

• What do you do?
Medical Management of Fibroids

• Hormonal therapies
  – Selective Progesterone Receptor Modulators (Ulipristal Acetate) *NEW
  – Induction of Menopause
    • GnRH Agonists

• Tranexamic acid oral

• Iron replacement
Surgical options to minimize blood loss

- Intraoperative Tranexamic acid

- Vascular Control
  - Sealing Devices
  - Clamps/Clips of proximal vessels (internal Iliac Artery)

- Bio- Surgical Materials (Sealants etc.)

- Minimally Invasive Surgery Techniques
  - Vasopressin (dilute)
  - Laparoscopy/Mini-Laparotomy
Complex Myomectomy
Complex Myomectomy – 24 fibroids
68 Fibroids!
Hysterectomy: Less Invasive is Better

Most still performed via the open route in Canada

1 Health Care in Canada 2010. Canadian Institute for Health Information. December 2010
Minimally Invasive Hysterectomy

- Shorter hospital stay
- Faster return to normal activity
- Less bleeding

Nieboer TE et al. Cochrane Database of Systematic Reviews 2009
Take Home Msg Gyne Surgery

• Preoperative Optimization is Essential

• We have time... don’t rush into things

• Good Surgical Skills are Essential

• Minimally Invasive Surgery is Ideal
Thank You

Compassionate People. World-Class Care.

Des gens de compassion. Des soins de calibre mondial.