# Obstetric Management of Fibroids and Prior Myomectomy

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PROJECT ECHO PREGNANCY CARE



## Objectives

- Review definition of fibroids
- Brief overview of treatment of fibroids
- Review pathophysiology of fibroids in pregnancy and associated recommendations
- Review recommendations for obstetric patients status post myomectomy
- We will not review management of fibroids in relation to infertility



## Uterine Fibroids (a.k.a. Leiomyomas)

#### Benign smooth muscle tumors



https://en.wikipedia.org/wiki/Uterine\_fibroid#/media/File:Leiomyoma.jpg



# Epidemiology of Fibroids

- Prevalence 1.6-10.7%
- Risk factors
  - Increased maternal age
  - African American ethnicity







http://www.medicinenet.com/uterine\_fibroids/article.htm

# Diagnosis

Clinical (in office and based on exam and symptomatology prior to pregnancy)

#### ✤Ultrasound

- Hypoechoic, spherical mass
- Distorts myometrial contour
- Must be differentiated from focal myometrial contraction (e.g. may disappear during same exam or follow up scan)
- Mass may undergo cystic changes if degenerating (not to be confused with ovarian mass)
- Color flow may help delineate blood supply

MRI may be useful to confirm degenerating leiomyomas



http://www.emedmd.com/content/fibroids-pregnancy

### Rationale for surgical treatment of fibroids

#### Treatment of severe symptoms

E.g. patient has required multiple transfusions and has failed medical management, rapidly growing fibroid leading to constipation or urinary retention

#### Infertility treatment (in reference to fibroids involving the uterine cavity)



## Treatment for fibroids

Fertility (uterus) sparing treatment – "myomectomy" is most common

Laparoscopic myomectomy

- Hysteroscopic myomectomy
- Abdominal myomectomy

Uterine Artery Embolization

Pregnancy not recommended following uterine artery embolization for fibroid management

Hysterectomy is definitive therapy for patients who have completed childbearing



## Laparoscopic Myomectomy







https://en.wikipedia.org/wiki/Uterine\_fibroid#/media/File:Myom.jpg

## Laparoscopic Myomectomy



## Hysteroscopic Myomectomy





http://cdn.fibroidsecondopinion.com/wp-content/uploads/2009/05/myo\_resect.jpg

http://simbionix.com/simulators/hyst-mentor/hyst-mentor-library-of-modules/hyst-mentor-myomectomy/



# Abdominal myomectomy





http://www.britishfibroidtrust.org.uk/abdo\_myomectomy\_clips.php

## Abdominal myomectomy



http://www.britishfibroidtrust.org.uk/abdo\_myomectomy\_clips.php



## Uterine Artery Embolization

Uterine Artery Embolization Procedure



http://www.hopkinsmedicine.org/bloodless\_medicine\_surgery/case\_studies/obstetrics\_gynecology.html



# Pregnancy effect on fibroids

Change in size (most commonly in first trimester)

- ✤ 40% stable, remainder increase or decrease in size by more than 10%
- 1/3 of fibroids >5cm in pregnancy will increase in size
- 10% of fibroids <5cm will increase in size</p>

#### Degenerative changes

Fibroid outgrow their blood supply -> ischemia
 Ischemia -> hemorrhagic infarction

Patient symptoms:

localized tenderness over fibroid low grade fevers, mild leukocytosis and/or nausea/vomiting



#### Potential complications related to fibroids:

Labor Dystocia/Labor Complications

Spontaneous Abortion

Fetal Death

Placental Abruption

Abnormal Placentation

Fetal Malpresentation

Preterm Delivery

Increased Cesarean Section Risk

Postpartum Hemorrhage



#### Potential complications related to fibroids:

#### **Spontaneous Abortion**

- Small increased risk for SAB in women with intramural fibroids compared with controls without fibroids (20% vs. 13%; OR 1.82 (1.34-2.3)).
- No effect from fibroid size but number of fibroids (e.g. no increased risk of SAB with single intramural fibroids)
- Inconclusive results for effect of submucosal fibroids on risk for miscarriage rate

#### Fetal Death

- Increased risk for fetal death in setting of fetal growth restriction in women with fibroids after controlling for race, diabetes, hypertension, maternal age and excluding fetal anomalies (OR 2.1 (1.2-3.6)).
  - No increased risk for fetal death in appropriately sized fetus
  - Risk greatest for women with >3 fibroids (OR 2.2 (1.1-4.6)) or fibroids >5cm in size (OR 2.6 (1.5-4.5))



Potential complications related to fibroids:

Placental Abruption

• Conflicting evidence regarding association between fibroids and abruption.

**Abnormal Placentation** 

 Large fibroids (>5cm in size) may confer increased risk for placenta previa or abnormally low placentation



#### Potential complications related to fibroids:

**Preterm Delivery** 

- Women with fibroids have higher rates of hospital admissions for preterm labor <37 weeks (OR 1.5 (1.3-1.7))</li>
  - Correlated with size of fibroid

#### Fetal Malpresentation

- Increased risk for fetal malpresentation in setting of uterine fibroids (OR 1.6-4.0 depending on study)
  - Higher rates of malpresentation at >37 weeks with fibroids >5cm in size with increasing rates of malpresentation with increasing fibroid size.

#### Labor Dystocia

 Patients with fibroids who are eligible for a trial of labor have likelihood of successful SVD similar to general population without fibroids



#### Potential complications related to fibroids:

#### Increased Cesarean Section Risk

- Increased rate of cesarean delivery preceding trial of labor (OR 3.7 (3.5-3.9))
  - Fetal malpresentation
  - Placenta previa
  - Lower uterine segment or cervical fibroid below below presenting fetal part

#### Postpartum Hemorrhage

• Increased rate of postpartum hemorrhage in women with fibroids (OR 1.8 (1.4-2.2))



Counsel patient on pregnancy risks in setting of fibroids

Routine OB labs and 18-20 week US

Document placental location and size/number of fibroids

Iron supplementation if patient history of anemia due to fibroids preceding pregnancy



Consider repeat ultrasound(s) in pregnancy if large (>5cm) fibroid present

Follow up on placental location if abnormally low (e.g. low lying or previa)

Follow growth of lower uterine segment fibroid and relationship to fetal presenting part
 May need MFM consultation/expert opinion if concern that SVD may not be feasible
 May need to counsel patient that if Cesarean Delivery is required, a non-low transverse hysterotomy may be indicated

Follow up fetal growth (particularly if fundal height is distorted due to size/number of fibroids)

Risk for IUFD in setting of large fibroid + fetal growth restriction



Myomectomy DURING pregnancy

Generally not recommended

Risks of bleeding, preterm delivery/prematurity

Reserved for severe cases of uterine fibroids in pregnancy



Myomectomy at time of cesarean delivery

Generally not performed unless absolutely necessary:

- to facilitate closure of hysterotomy
- to facilitate delivery of the infant

Increased risk of hemorrhage requiring transfusion, uterine artery ligation/embolization or hysterectomy



Myomectomy at time of cesarean delivery

- Preoperative planning should include:
  - Ultrasound mapping of fibroid in relationship to placenta and fetal position
  - Blood product availability
  - Appropriate back up should complications arise
    - Experienced GYN surgeon/Interventional Radiology



In the rare case of a degenerating fibroid...

Diagnosis with ultrasound to correlate pain with fibroid location

- Rule out other potential diagnoses in your differential (e.g. preterm labor, appendicitis, pyelonephritis, torsion, etc.)
- Short course of NSAID therapy may be reasonable (expert opinion) following trial of acetaminophen e.g. ibuprofen or indomethacin



In the even RARER case of infected degenerating fibroid (pyomyoma)...

- Characteristic symptoms include:
  - Fevers MODERATE leukocytosis Lack of response to appropriate therapy
  - Most often associated with termination of pregnancy or around time of delivery
- Treatment: IV antibiotics with myomectomy or hysterectomy



# Timing and mode of delivery in patients with prior myomectomy

### **Uterine rupture is primary concern!**

Helpful information to guide decision for timing/mode of delivery:

#### Operative report

- Type/extent of uterine incision
- Size and number of fibroids removed
- Endometrial cavity entry (Yes or No)



# Mode of delivery in patients with prior myomectomy

If endometrial cavity was NOT entered at time of myomectomy

Trial of labor may be considered
Counseling similar to patients with prior LTCS

No special monitoring required in labor if history of pedunculated fibroid removal without involvement of the myometrium



# Mode of delivery in patients with prior myomectomy

# If uterine cavity was entered or nearly entered at the time of myomectomy, a pre-labor scheduled cesarean delivery should be undertaken

Uterine rupture in labor risks estimated from prior classical cesarean delivery data

Risk for uterine rupture 4%-9% for women with prior classical cesarean

ACOG Practice Bulletin #115 (VBAC)



## Timing of delivery in patients s/p myomectomy

BLE	<b>Recommendations for the timing</b>	of scheduled CD
ant free do se fi o	in women with prior uterine scar	

Indication	Timing of planned delivery	
Prior classical, T, or J incision (with involvement of upper uterine segment)	36 wks 0 days–37 wks 6 days	
Prior myomectomy	37 wks 0 days–38 wks 6 days	
≥2 prior lower segment cesareans	39 wks 0 days–39 wks 6 days*	
Prior uterine rupture	36 wks 0 days–37 wks 6 days	

Abbreviation: CD, cesarean delivery

Note: There is no requirement for amniocentesis to assess fetal lung maturity prior to delivery. \*Early term delivery is appropriate when prior CDs were complicated or in the presence of maternal or obstetric complications.

SMFM Clinical Practice Guidelines. Prior non-lower segment uterine scar: when to plan cesarean delivery Society of Maternal Fetal Medicine with the assistance of Cynthia Gyamfi-Bannerman, MD, published in Contemporary OB/GYN / dec 2013



## Thank you for your attention!

## Questions?

Stay Tuned for Community Case Presentations  $\ \ensuremath{\mathfrak{O}}$ 

