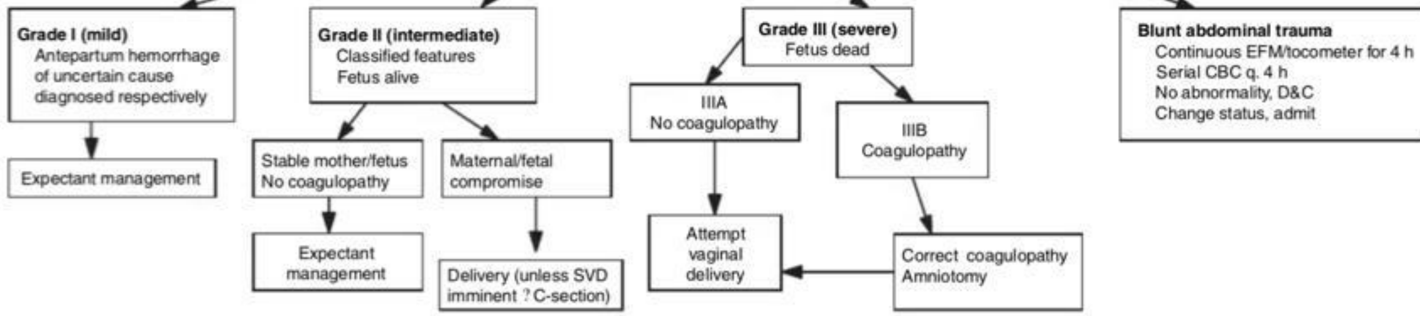
Abruptio placentae

DIAGNOSIS:
Vaginal bleeding (85%)
Uterine pain/tenderness
Increased uterine tone
Fetal heart rate abnormalities
Ultrasound (retroplacenta/clot, r/o previa)

INITIAL MANAGEMENT:
Large bore IV
Type & cross-match several units PRBC
Labs: CBC/platelets; fibrinogen; PT/PTT;
fibrin split products; Kleihauer?Bettke;
(Rh neg mother)
Continuous fetal monitoring, tocometer
Serial fundal heights
+/- Central venous access
Foley catheter (maintain UOP > 30 cc/h)
Speculum exam, if stable

PLAN ACCORDING TO SEVERITY



Abruptio placentae – summary

Diagnosis

(1) *Clinical symptoms*
Fetal tachycardia/IUFD
Virchow's triad
uterine pain – focal or generalized
increased tone
vaginal bleeding (85%) – 15% concealed
(2) *Imaging* (ultrasound)
Helpful in concealed abruption – sonolucent retroplacental area
Locate placenta (i.e. r/o previa)

Management

(1) Large bore IV (16 or 18 gauge)
– crystalloid – (LR, D5NS)
– can be used for blood transfusion
(2) Type and cross–match 2–4 units PRBC
(3) Labs: CBC w/ platelets; coagulation profile (fibrinogen, PT, PTT, fibrinogen split products); repeat q. 2–3 h
(4) Continuous EFM, tocometer
(5) Measure serial FH (especially concealed abruption)
(6) Consider central venous access (especially when impending or actual shock suspected)
(7) Strict I&Os (UOP > 30 cc/h)
(8) Determine extent of fetal–maternal hemorrhage (i.e. Kleihauer–Bettke)
Rh neg mother – additional RhoGAM (vial > 30 ml)
(9) If stable, spec exam

Plan

(1) Delivery (when possible)
– low threshold for Cesarean section (fetal/maternal indication)
– if rapid vaginal delivery expected, attempt (or fetus dead)
(2) Expectant management
– patient/fetus stable
– no coagulopathy
(3) Correct coagulopathy
– PRBC
– FFP
– cryo precipitate
– platelets
(4) Correct hypovolemia/restore adequate circulation
– rapid infusion crystalloid/cross-matched blood (O neg in emergency)
– maintain Hct > 30%
(5) Avoid incision or episiotomy if possible
– careful hemostasis intrapartum/intra op
(6) Postpartum
– monitor resolution of coagulopathy
– correct anemia, fluid/electrolyte imbalance
– monitor incision/episiotomy site (r/o hematoma)
– strict I&Os

Endocrine factors of RPW

Luteal phase defect
Uncontrolled diabetes
Thyroid disease
Hyperprolactinemia
Hyperandrogenemia

Immunologic factors of RPW

Autoimmunity

Antiphospholipid antibodies – implicated in Increased platelets aggregation, decreased endogenous anticoagulant activity, increased thrombosis and vasoconstriction resulting from immunoglobin binding to both platelet and endothelial membrane phospholipid. Screen patients with RPW by drawing – APTT, kaolin clotting time, lupus anticoagulant and cardiolipin ab. — 10–16%
Treat with heparin and low-dose aspirin... pregnancy achieved in — 70%

Alloimmunity

Refers to all causes of pregnancy loss related to an abnormal maternal immune response to antigens on placental or fetal tissues. Suggested that couples with RPW have sharing of HLA (human leukocyte antigens), a condition that would not allow the mother to make blocking antibodies. Treatment – IV immune globulin ??

Partial birth abortion — > 16 weeks – 5.5%

May be the best or most appropriate procedure to save the life or preserve the health of the patient
Must have ALL four elements in sequence:
(1) Deliberate dilatation of cervix, usually > sequence of days
(2) Instrumental conversion of fetus to footling breech
(3) Breech extraction of body except the head, AND
(4) Partial evacuation of the intracranial contents of a living fetus to effect vaginal delivery of a dead but otherwise intact fetus

Incomplete and/or recurrent abortion

< 12 weeks

H&H, WBC, Group & Rh
Fibrinogen and platelets
D&E
D/c 6–8 h postop if stable with minimal bleeding
F/u 2 weeks

13–28 weeks

Offer watchful expectancy at least x 3 weeks (> 4 weeks 25–40% DIC) ***or*** PGE_2; (D&E okay if experienced)
CBC, fibrinogen, platelets, Group & Rh
Type & screen
NPO night before
Repeat PGE_2 q. 4 h
D5½ NS
Demerol® 25 mg IV q. 3 h p.r.n.
Phenergan® 25 mg IV q. 4 h or Zofran 8 mg subling p.r.n. nausea
6 h postop – H&H, fibrinogen level
If USS – d/c x 24 h – RTO in 2 weeks

> 28 weeks

CBC w/ platelets, Group and Rh, fibrinogen, Type & cross 2 units; D5½
Pitocin® or Cytotec ***or*** with PGE_2 prior to Pitocin
US q. h
Stillbirth protocol (photos, opportunity to view and hold)
Request autopsy
Hct & fibrinogen
If USS – d/c x 24 h – RTO x 2 weeks

Two previous abortions	25.1%
Three previous abortions	45%
Four previous abortions	54.3%
Overall	11.3%
What % of elective abortions are second-trimester abortions?	10%
What is the appropriate vacuum for evacuating an incomplete abortion in the first trimester?	40 mmHg
To undertake an elective abortion at 10 *menstrual weeks'* gestation, correct cannula size is	8 mm
What period of time does one have to give RhoGAM immunoglobulin (RHIG) prophylaxis if not given within 72 h of delivery or abortion?	28 days
Incidence of vaginal bleeding in first trimester	20%
Risk of miscarriage in patient with first-trimester bleeding	1/2 to 2/3
FHR per US – incidence of spontaneous abortion with first-trimester bleeding is only	10%
US with no FHR is indicative of fetal demise if sac is	> 1.2 cm
Risk of combined IUP and ectopic is	1/8000–1/30 000
RhoGAM < 12 weeks' gestation	MICRhoGAM® (50 μg)
> 12 weeks' gestation	Full dose RhoGAM®

Most likely organisms to cause postabortal endometritis are *Neisseria gonorrheae*, *Chlamydia* and *Streptococcus*

Treat endometritis with doxycycline, ofloxacin and/or ceftriaxone

Habitual abortions

Causes	*Diagnosis*	*Treatment*
Immunologic	APTT, lupus, VDRL, antiphos abs	Heparin, ASA, prednisone
Microbiologic	Cervical and endometrial cultures	Tetracycline, emycin
Endocrinologic	Endo Bx, TSH, prolactin, midcycle progesterone, BBT charting	Clomid®, progesterone, thyroid, bromocriptine
Genetics	Karyotype	Genetic counseling, donor insemination, IVF
Anatomic	HSG, laparoscopy, hysteroscopy	Septum, cerclage, lyse synechia, myomectomy, metroplasty, tuboplasty, IVF
Metabolic	As indicated	As indicated
Environmental	Tobacco, EtOH abuse	Eliminate consumption or exposure

Common genetic causes of RPW (recurrent pregnancy wastage)

Aneuploidy	
Chromosomal translocation – most common structural abnormality	
CPM (confined placental mosaics)	1–2%
Carriers of factors Leiden – increased risk of venous thromboembolism	

Anatomic anomalies of RPW

Unicornuate uterus – rate of spontaneous pregnancy loss is	51%
Uterine didelphys – rate of spontaneous pregnancy loss is	40%
Bicornuate uterus – rate of spontaneous pregnancy loss is	30%
Septate uterus – rate of spontaneous pregnancy loss is	65%
Resection of the septum results in the successful delivery rate of	86%
Asherman's syndrome – pregnancy rates of untreated is	45%
Hysteroscopic resection of Asherman's – rate of conception is	84%

Paracervical 7, 9, 11, 1, 3, 5 o'clock or simply inject 6 cc of 1% lidocaine at 5 and 7 o'clock
Local increases postabortal fever
General increases death, perforation, bleeding and aspiration
Diprivan® is all that is usually needed if patient desires sleep
Selection of cannula #8 for 8 weeks; straight for decreased pain, curved for ante- or retroflexed uterus
Postop meds
RhoGAM < 12 weeks; MICRhoGAM (50 μg) > 12 weeks full dose
Doxycycline 100 mg p.o. b.i.d. for a few days postoperatively
Methergine® not needed unless > 10 weeks' gestation
NSAIDs for postop discomfort

Bleeding, os closed

Bleeding, os open, no POC passed

Bleeding, os open, some POC visualized

Bleeding, os closed, all POC extruded

No viable fetus, no bleeding, no symptoms
Surgical evacuation of the uterus via D&C is not obligatory for first-trimester missed abortion (Wood SL, Brain PH. Medical management of missed abortion: a randomized clinical trial. *Obstet Gynecol* 2002;99:563–6)

Elective termination

Any SAB or TAB with intrauterine infection

Usually due to clostridial sepsis
Presents with tachycardia and FEVER
Hematuria and shock develop rapidly
Dxn; H&P, cultures by endobiopsy or evacuation +++gm + rods on Gm stain.
Check serum pregnancy test
Rx:
(1) High dose ab – PCN
(2) Empty uterus – first-trimester vacuum
second-trimester D&E with US or use PGE
(3) Laparotomy p.r.n.
(4) Hysterectomy with BSO (if hemolysis or systemic)
(5) Hyperbaric oxygenation p.r.n.
(6) Supportive care – ICU – cardiovascular support to restore B/P treat ARDS (ventilation if $O_2 < 90\%$)

Clinically recognized	10–15%
Lost in first or early second trimester	15–20%
Lost prior to menses	50–75%
Likelihood of fetomaternal hemorrhage after spontaneous abortion	3–4%

Mifepristone (RU486) approved in the USA for voluntary termination of IUP of up to 7 weeks (49 days from LMP)

Method

Day 1 Counseling, especially about 5% failure rate and possible need for surgical intervention. Malformations if continued pregnancy after failure. Patient to sign PATIENT AGREEMENT and/or CONSENT. Know or review contraindications. Then, 600 mg (three tablets of 200 mg each) given as single oral dose. This administration should be witnessed and done while in office.

Day 3 Misoprostol 400 μg (two tablets of 200 μg each) given as single oral dose (unless abortion has occurred and been documented by exam and ultrasound). Patient usually given something for cramping

Day 14 Post-treatment follow-up (persistent or enlarging sac requires surgery for removal)

***Medical abortion* (if RU486 not available)** Misoprostol 800 μg

If uncertain about location give misoprostol 5 days after Mtx 1 mg/kg

Ectopic Mtx alone IUP Cytotec (misoprostol 800 μg) alone or Cytotec 800 μg then mifepristone 600 mg (RU486) 36–48 h later or as described above

Misoprostol 400 μg every 6 h for ≤ 48 h appears to be an effective regimen for second-trimester pregnancy termination, resulting in a shortened delivery time. (Dickinson JE, Evans SF. Optimization of intravaginal misoprostol dosing schedules in second-trimester pregnancy termination. *Am J Obstet Gynecol* 2002;186:470–4)

Surgical abortion (discouraged if < 6 weeks – increased risk of incomplete evacuation, ectopic)

Difficulty with cannula? Use laminaria, Cytotec or rotation of tip of dilator

Labs – Rh p.r.n., Hct, pregnancy test, STD?, Paps

Anesthesia

(1) Give Lortab® 5 or Percocet® 5 AND Xanax® 0.5 mg p.o. 30 min prior

(2) Give Valium® 10 mg with lidocaine 20 mg IV through butterfly and Nubain® 10 mg IV just prior to start of procedure

Paracervical 7, 9, 11, 1, 3, 5 o'clock or simply inject 6 cc of 1% lidocaine at 5 and 7 o'clock

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ADENOMYOSIS

Definition

Endometrial glands and stoma invading myometrium by one of the following:

Low-power field	1
High-power field	2
Depth of	3 mm

ADHESIONS

Preventative measures

BEST – gentle handling of tissues, minimize number and extent of incisions, strive for absolute hemostasis, and use small, nonreactive suture

Antibiotics – Cephalosporins and tetracyclines (lavage). Some evidence may be of benefit
Heparin – Controversial
Crystalloid solutions – Normal saline or Ringer's lactate. Unproven. Some animal studies suggest there is an increased adhesion formation
Steroids – Dexamethasone. Possibly decreases inflammatory response, but unproven
Polysaccharide polymer – Dextran 70 (Hyskon) Controversial. 200 ml placed in posterior cul-de-sac or around surfaces. Risks are abdominal bloating, anaphylaxis, liver function abnormalities, wound separation, or rare DIC

Barrier agents
Absorbables (require hemostasis)
INTERCEDE (oxidized regenerated cellulose) 2 x more effective as microsurgery alone
SEPRAFILM (Hyaluronate–carboxymethylcellulose)
Non-absorbables
GORTEX (expanded polytetrafluoroethylene) – must be removed
PRECLUDE (polytetrafluoroethylene). Particularly useful for patients undergoing myomectomy
SHELHIGH NO-REACT (pericardial patch)
Fluid
SEPRACOAT (hyaluronic acid-coat) Limited data on efficacy in myomectomies
INTERGEL™ (dilute solution of hyaluronic acid). Decreases extent + severity of *de novo* adhesions when applied over the serosal surfaces. Withdrawn from market for reports of postoperative pain and complications

Myomectomy	Posterior uterus	94%
	Fundal/anterior	56%
Hysterectomy	Bowel obstructions	1.6%