

POSTPARTUM COMPLICATIONS

HEMORRHAGE

Blood loss of more than 500cc following delivery constitutes postpartum hemorrhage. When bleeding cannot be controlled by manual compression of the uterus or by the administration of drugs, the patient is returned to the delivery room for further evaluation and treatment. If not controlled, postpartum hemorrhage can be fatal. This condition is associated with:

- rapid delivery
- uterine over-distention (polyhydramnios, multiple gestations)
- abnormal contractions during labor
- retained products of conception
- uterine manipulation during delivery

ETIOLOGY

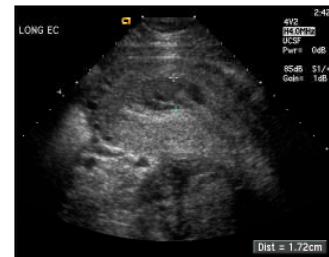
- uterine atony
- soft tissue laceration during delivery
- delayed hemorrhage caused by retained products

CLINICAL SIGNS:

- heavy vaginal bleeding
- decreased hematocrit
- prolapse of the uterus may occur

SONOGRAPHIC FINDINGS

- presence of fluid within the endometrial cavity
- presence of soft tissue in the endometrial cavity



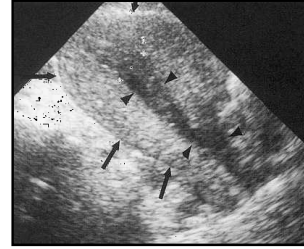
INFECTIONS

Puerperal infection is suspected when the postpartum patient experiences elevated body temperatures ($> 100.4^{\circ}$ F or 38° C) on any two of the first ten postpartum days. The vagina is the most common route of infection into the uterine cavity. Puerperal infections may be associated with:

- poor nutrition and hygiene
- anemia
- vaginitis or cervicitis
- delayed rupture of membranes
- use of invasive fetal and maternal monitoring devices
- cesarean section
- prolonged labor

CLINICAL FINDINGS:

- elevated temperature
- increased white count
- tachycardia
- uterine tenderness
- malaise

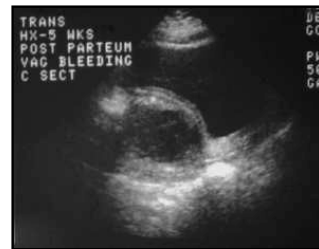


Inflammatory collection
in uterine cavity

SONOGRAPHIC FINDINGS

- if generalized, no specific sonographic findings are present
- normal postpartum appearance of the uterus
- uterus may not involute on schedule

Abscess in uterine cavity
following C-section. Small
gas bubble are present.

***VENOUS THROMBOSIS***

A rare complication of the puerperium in which an iliac or ovarian vein becomes thrombosed. It is more common in patients delivered by cesarean section. Injury to the venous endothelium during labor and delivery may predispose to this condition. Vascular changes associated with pregnancy, labor and delivery may cause **Virchow's triad** which is responsible for venous thrombosis. This triad consists of:

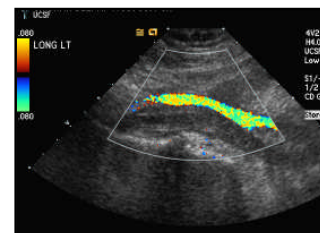
- hypercoagulability of blood
- venous stasis
- alterations of the venous endothelium

Predisposing factors for venous thrombosis include:

- endometritis
- increased age or parity
- obesity
- administration of high dose estrogens
- heart disease
- anemia

SONOGRAPHIC FINDINGS

- anechoic or hypoechoic oval mass identified in retroperitoneum
- contiguous with ovarian vessel
- Doppler evaluation reveals limited blood flow



CESAREAN SECTIONS

A cesarean section is the delivery of the fetus, placenta and membranes through an incision in the abdominal wall. C-section is indicated when vaginal delivery is not feasible or would impose undue risk on mother or infant.

INDICATIONS:

- central placenta previa
- cephalo-pelvic disproportion
- uterine inertia
- premature separation of the placenta
- malpresentation
- preeclampsia/eclampsia
- fetal distress
- cord prolapse
- previous c-section

TYPES OF C - SECTIONS:

Classical vertical incision through body of uterus

Low cervical section transverse incision through LUS "bikini cut"

SONOGRAPHIC FINDINGS

- presence of highly reflective, focal echoes representing sutures
- decreased echogenicity in the myometrium surrounding the sutures
- anechoic area anterior to the uterine incision and the posterior bladder wall

HEMATOMAS

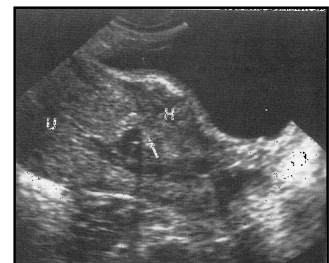
Most commonly located anterior to the incision and behind the bladder (bladder flap), hematomas are the result of failure to stop bleeding after closing the uterine incision.

CLINICAL SIGNS:

- fever
- pelvic mass
- decreased hematocrit

SONOGRAPHIC FINDINGS

- presence of a complex mass between the anterior lower uterine segment and the posterior bladder wall (BLADDER FLAP)
- poorly defined borders
- presence of internal septations
- cannot sonographically differentiate from abscess



ABSCESSSES

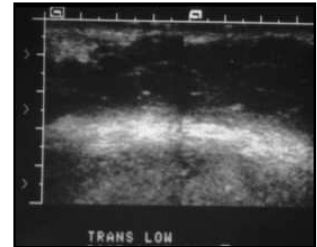
Any of the predisposing factors associated with puerperal infection listed above may also cause abscess. AN abscess is the collection of pus, blood and serous fluid secondary to the body's attempt to fight off infection. An abscess may be located anywhere in the abdominal or pelvic cavities.

CLINICAL SIGNS:

- see PUERPERAL INFECTION

SONOGRAPHIC FINDINGS

- complex or anechoic fluid collection anywhere
- presence of internal debris
- acoustic shadowing when gas bubbles are present



Subcutaneous abscess
beneath a C-section
incision.