Imaging Diagnostic Dilemma of Large Subchorionic Hematoma

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ABSTRACT

Vaginal bleeding in first-half of pregnancy occurs in one-fourth of all pregnant women. This case report mainly highlights the occurrence of large subchorionic hematoma (SH) (area >13.7 cm², stripping of >50% of chorionic circumference) in first trimester. Usually, large SHs occur in second trimester, are associated with pregnancy loss but are relatively uncommon in first trimester. This case describes a 32-year-old G₂P₁L₁ who presented with complaints of vaginal spotting, was misdiagnosed to have threatened abortion with twin gestation. Later, the diagnosis was confirmed to be a large SH. Patients with large SH are at greater risk for eventual fetal death, hence the need for serial scanning to determine final outcome of their gestation.

Keywords: Hypoechoic mass lesion, subchorionic hematoma, twin gestational sac

Subchorionic hematoma (SH) may be detected sonographically in the first trimester by the presence of a crescent-shaped echo-free area outlining the intact gestational sac. But at times, this sonographic appearance may not be echo-free, which is why it needs to be differentiated from other differential diagnoses. This case report identifies such a diagnostic dilemma.

CASE REPORT

A 32-year-old lady presented to Gynecology OPD with complaints of spotting per vaginum. Her obstetric history was P₁L₁. She had a full-term normal vaginal delivery 1 year ago. She was still lactating and had amenorrhea since last year. On clinical examination, she was afebrile; the vital parameters were stable with pulse rate of 88/minute and blood pressure of 120/80 mmHg. On examination, abdomen was nontender, nondistended, with normal bowel sounds. The uterus was not palpable. There was no rebound tenderness or guarding or rigidity. On pelvic exam, the cervical os was closed and scant altered dark blood was noted in the vaginal vault. No active bleeding was present. The patient had a positive Chadwick’s sign. Bimanual exam revealed neither masses nor cervical motion tenderness. The remainder of the physical exam was unremarkable. Her laboratory tests revealed hemoglobin of 10.2 g/dL, total white blood cell (WBC) count of 5,600/mm³; urine pregnancy card test was weakly positive. She was sent for ultrasound imaging (Figs. 1-4).

A diagnosis of threatened abortion with twin gestation was made and the patient was managed conservatively with bed rest and progesterone injections. But 2 days later, the patient had profuse bleeding and repeat scanning revealed the image as shown in Figure 5. Due to the excessive bleeding, conservative management was aborted and emergency dilation and curettage (D&C) was done. During curettage, the products of conception were removed but still no grating sensation was felt. The patient had a positive Chadwick’s sign. Bimanual exam revealed neither masses nor cervical motion tenderness. The remainder of the physical exam was unremarkable. Her laboratory tests revealed hemoglobin of 10.2 g/dL, total white blood cell (WBC) count of 5,600/mm³; urine pregnancy card test was weakly positive. She was sent for ultrasound imaging (Figs. 1-4).

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and sent for histopathology. The histopathology report confirmed it to be just a hematoma with no traces of any vanishing or reduced twin gestational sac or chorionic tissue.

**REVIEW OF LITERATURE**

Bleeding per vaginum in the first-half of pregnancy occurs in approximately one-fourth (25%) of women and about half of these pregnancies terminate in abortion. The main reasons for vaginal bleeding in early gestation are SH and rupture of a marginal placental sinus. Its etiology is largely unknown, although uterine malformations, history of repeated abortions and infection have been suggested as possible predisposing factors. The size of the hematoma is graded according to the percentage of chorionic sac circumference elevated by the hematoma as follows:

- Small indicates less than one-third of the chorionic sac circumference elevated by hematoma.
- Moderate indicates one-third to one-half of the chorionic sac circumference elevated by hematoma.
- Large indicates one-half to two-thirds or greater of the chorionic sac circumference elevated by hematoma.

Bennett et al showed that there was little difference in the rates of spontaneous abortion between pregnancies with small and moderate-size separations (7.7% and 9.2%, respectively), but the rate nearly doubled when the separation was large (18.8%). Kahn et al have described a similar case report of a 24-year-old G3P1A1 Hispanic woman who presented to the Emergency Department (ED) at 6½ weeks POG by date with vaginal bleeding of 1-day duration. She underwent

**Figure 2.** Transvaginal scan showing one gestational sac with yolk sac within it but no fetal pole and the other gestational sac with some hyperechoic areas within it.

**Figure 3.** The gestational sac with the yolk sac had mean diameter of 13.7 mm corresponding to 5 weeks 2 days and the other hypoechoic area measured 4.2 x 3.5 cm = 14.7 cm² and was surrounding 50-60% of the gestational sac (as seen on transabdominal scan - Fig. 1).

**Figure 4.** Color Doppler revealed no vascularity in the hypoechoic mass and very poor vascularity of gestational sac.

**Figure 5.** Transabdominal scan showing that the upper hypoechoic area had become more isoechoic suggesting it was a large SH which had now become organized and the patient had developed a second SH at the lower pole of the gestational sac.
a bedside endovaginal ultrasound in the ED. The emergency physician identified a live intrauterine pregnancy (IUP) with another structure that appeared to be a second gestational sac. The patient subsequently had an endovaginal ultrasound in the radiology department, 46 minutes later. The attending radiologist described one live IUP and a SH. Comparison of the ED and radiology ultrasound showed that the second structure, identified as SH, had significantly decreased in size.

Endovaginal ultrasound in the evaluation of possible ectopic pregnancy is a useful bedside tool in the ED. They have discussed a pitfall that can occur with endocavitary ultrasound when a twin gestation is presumed. Hence, it is worthwhile knowing the differential diagnosis of SH, which include a twin gestational sac, uterine leiomyoma (fibroid), focal myometrial contraction, chorioamniotic separation, prominent retroplacental veins. SHs should also be distinguished from retroplacental hematoma and subamniotic hematoma (Fig. 6). SHs are usually described as crescentic anechoic collections lifting the chorionic membrane. But as described by Trop et al and Nyberg et al in their articles, depending on the time elapsed since the bleeding, the collection will have variable echotexture; it will be hyperechoic initially, with decreasing echotexture over time. Twin sac has an echogenic rim of chorionic tissue, which distinguishes it from a SH.

A SH may be present in conjunction with multiple pregnancy and it is important not to confuse it with a vanishing or spontaneously reduced twin. Unlike a gestational sac, the size and shape may be variable and may contain low level internal echoes. Although, they occur frequently in multiple pregnancies, till date only a single case series reports on SH in multiple pregnancy. Dickey and colleagues retrospectively analyzed the incidence of SH and embryonic death in both singleton and twin pregnancy. Interestingly in their report 50% of twin pregnancies had a SH. The detection of a large SH on ultrasound increases the risk for miscarriage, stillbirth, placental abruption and preterm labor. Patients with SH are at greater risk for eventual fetal death even if signs of fetal life are present initially on sonography. We recommend that these patients be scanned serially to determine the final outcome of their gestation.

REFERENCES


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5 Things Obstetrician/Gynecologist Shouldn’t Do

The Society for Maternal-Fetal Medicine (SMFM) released a list this month of 5 procedures that ob/gyns should question. The list is part of the American Board of Internal Medicine Foundation's Choosing Wisely® campaign, an initiative launched in 2012 that is meant to encourage physicians to question the benefit of some commonly used tests and procedures.

**Inherited Thrombophilia Evaluation:** The Recommendation: Don’t do an inherited thrombophilia evaluation for women with histories of pregnancy loss, intrauterine growth restriction (IUGR), preeclampsia, and abruption. The Rationale: There isn’t enough evidence to show an association between the inherited thrombophilias and adverse pregnancy outcomes. Testing for antiphospholipid antibodies should be limited to lupus anticoagulant, anticardiolipin antibodies, and beta-2 glycoprotein antibodies.

**Cerclage Placement:** The Recommendation: Don’t place a cerclage in women with a short cervix who are pregnant with twins. The Rationale: These women are at high risk for delivering preterm, but data, including a meta–analysis published on this issue, shows that a cerclage is not only ineffective, but also may be associated with an increase in preterm births.

**Noninvasive Prenatal Testing:** The Recommendation: Don’t offer noninvasive prenatal testing (NIPT) to low–risk patients or make irreversible decisions on the basis of the results of this screening test. The Rationale: NIPT has only been adequately evaluated in high–risk pregnancies, defined as maternal age older than 35 years; positive screening; sonographic findings suggestive of aneuploidy; translocation carrier at increased risk for trisomy 13, 18 or 21; or prior pregnancy with a trisomy 13, 18, or 21. In addition, pretest counseling must be provided, and a positive NIPT result should be confirmed with invasive diagnostic testing.

**Screening for IUGR:** The Recommendation: Don’t screen for IUGR with Doppler blood flow studies. The Rationale: Studies have shown inconsistent results regarding the benefit of Doppler blood flow studies for IUGR screening. Once the diagnosis is suspected, however, umbilical artery Doppler flow studies are beneficial.

**Progestogens for Preterm Birth:** The Recommendation: Don’t use progestogens for preterm birth prevention in uncomplicated multifetal gestations. The Rationale: Progestogens haven’t proven to reduce the incidence of preterm birth in women with uncomplicated multifetal gestations.