Chapter 13
First Trimester Bleeding
• Sonography is indicated with first trimester bleeding when a pregnancy is considered threatened. There is no indication for sonography once an abortion is completed unless incomplete abortion is a consideration. (See also Section 13.1.3.)

• Once sonography is performed for threatened abortion, the following differential diagnoses have to be considered:

13.1. **ABNORMAL GESTATIONAL SAC**

13.1.1. **Empty Sac**

- *Blighted ovum* represents the absence of normal contents of the gestational sac by 8 weeks gestational age (see Fig. 13.1.1).

- Normally, a *fetal pole* and *fetal circulatory pulsations* should be apparent at 6–7 weeks, but a fetal heartbeat should be definitively apparent at 9 weeks.¹ (See also Chapter 7.)

13.1.2. **Separation of the Gestational Sac**

- In threatened abortions, early separation of the gestational sac may occur as a sonographically fluid-filled space immediately adjacent to the sac. It is important to separate this finding from the frequently observed *implantation bleed*, which may be normal and is generally smaller in size (see Fig. 13.1.2).

- The vast majority of implantations occur high in the fundus. The sonographic visualization of a low location of the gestational sac is suspicious of separation. In some cases separation tracks can be seen.

- No gestation should be terminated due to a low position of the sac; it is only noteworthy and should be followed up.

- The normal sonographic sac is circular and smooth with a thickened border (rind appearance). Irregularly shaped sacs may indicate separation and impending abortion (see Figs. 13.1.1 and 13.1.2.)