

EARLY INTRAUTERINE PREGNANCY

Early Intrauterine Pregnancy: Transvaginal Ultrasound Diagnosis of a Nonviable Intrauterine Pregnancy Early in the First Trimester

SUMMARY: Accurate ultrasound assessment of early pregnancy viability avoids improper interventions for false positive diagnoses of pregnancy failure that could damage a normal healthy pregnancy.

Rationale: It is important to distinguish early pregnancy loss from other early pregnancy complications. Treatment of a suspected abnormal early intrauterine pregnancy before confirmed diagnosis could have detrimental consequences, including the interruption of an otherwise normal pregnancy, pregnancy complications, or structural birth differences.

Ultrasound is the preferred modality to verify the presence of a viable intrauterine gestation. In some cases, a single ultrasound study may not be sufficient to confirm the diagnosis of early pregnancy loss.

In 2012, the Society of Radiologists in Ultrasound Multispecialty Panel on Early First Trimester Diagnosis of Miscarriage and Exclusion of a Viable Intrauterine Pregnancy created guidelines that were more conservative than past recommendations and proposed clear thresholds for diagnosing pregnancy failure as well as provided follow-up recommendations when initial findings are suspicious for, but not diagnostic of, pregnancy failure. This was done in order to avoid false positive diagnoses of early pregnancy non-viability and limit interobserver variability. These guidelines were subsequently adopted by the American College of Obstetricians and Gynecologists (ACOG).

Eligible patients:

- Early intrauterine pregnancy of uncertain viability
- Patient desires to continue the pregnancy
- Patient willing to postpone intervention in order to achieve certainty of pregnancy loss

Contraindications:

- Clear evidence of completed abortion
- Evidence of an ectopic pregnancy
- Patient instability (e.g. active bleeding)

Technique:

Early transvaginal ultrasound should be performed to assess pregnancy viability and dating in every pregnancy. If pregnancy viability is uncertain, reference the table below to confirm non-viability prior to medical or surgical intervention.

TABLE: Guidelines for Transvaginal Ultrasonographic Diagnosis of Pregnancy Failure in a Woman with an Intrauterine Pregnancy of Uncertain Viability.

Findings Diagnostic of Pregnancy Failure	Findings Suspicious for, but Not Diagnostic of, Pregnancy Failure*
<p>Crown-rump length of ≥ 7 mm and no heartbeat</p> <p>Mean sac diameter of ≥ 25 mm and no embryo</p> <p>Absence of embryo with heartbeat ≥ 2 wk after a scan that showed a gestational sac without a yolk sac</p> <p>Absence of embryo with heartbeat ≥ 11 days after a scan that showed a gestational sac with a yolk sac.</p>	<p>Crown-rump length of < 7 mm and no heartbeat</p> <p>Mean sac diameter of 16-24 mm and no embryo</p> <p>Absence of embryo with heartbeat 7-13 days after a scan that showed a gestational sac without a yolk sac</p> <p>Absence of embryo with heartbeat 7-10 days after a scan that showed a gestational sac with a yolk sac</p> <p>Absence of embryo ≥ 6 wk after last menstrual period</p> <p>Empty amnion (amnion seen adjacent to yolk sac, with no visible embryo)</p> <p>Enlarged yolk sac (> 7 mm)</p> <p>Small gestational sac in relation to the size of the embryo (< 5 mm difference between mean sac diameter and crown-rump length)</p>

*When there are findings suspicious for early pregnancy loss, follow-up ultrasonography at 7-10 days to assess the pregnancy for viability is generally appropriate.

Special Considerations:

- Expectant management when diagnosis of intrauterine pregnancy failure is unclear includes the following risks:
 - Undesired spontaneous passage of pregnancy tissue with potential for hemorrhage
 - Need for an unscheduled visit or procedure
 - Patient anxiety
- The diagnosis and management of a pregnancy of unknown location is beyond the scope of this document.

Reference(s):

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