Chapter 17
Fetal Environment
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Objectives
• Explain placenta and cord embryonic development
• Identify normal placenta, cord, uterus, and cervix
• Appraise images for proper bladder filling in the second and third trimester
• Discuss abnormal placenta location and attachment
• Differentiate between oligohydraminos and polyhydraminos

Cervix and Lower Uterine Segment (LUS)
• Bladder filling
• Measurement technique
• Cerclage loop
Fibroid versus Contraction

- Equivalent sonographic appearance
- Braxton-Hicks relaxes with time
Placental Grading

**Table 1**

Placental Grading Based on Placental Califications

1. Placental Grading
   - Grade A: Normal califcations (no abnor vili)
   - Grade B: Partial califcations (partial villi)
   - Grade C: Dense and stabiliferous villi califcations (of villi)

2. The placenta: consistent with the 40th week.
3. Two parts of the placenta may have different grades; in such cases the highest grade is assigned.
4. Most term placentas have grade A or B placentas.
5. Only about 10%–20% of term placental grades B.

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Abnormal Placental Shape

- Bilobed placenta
- Circumvallate placenta
- Abnormal membranes / Amniotic bands
- Annular placenta
- Abnormal placenta size
- Abnormal location (placenta previa)
- Abruptio
- Acreta, increta, percreta
Umbilical Cord

- Normal
- Abnormal
  - Cord insertion
  - Knots
  - Nuchal cord
  - SUA
  - Prolapse / vasa previa

PATHOLOGY BOX 17-4
The Umbilical Cord

- 2 arteries/1 vein
- Covered by Wharton's jelly
- Coiled
- 21.5-61 cm/8.3-24 inches long
- 3.8 cm/1.5 inches in circumference

PATHOLOGY BOX 17-2
Risk Factors for Placenta Previa

- Advanced maternal age (AMA)
- Multiple gestation
- History of cesarean section
- Previous myomectomy
- Multiparity
Fluid

- Normal sonographic appearance
- Hydraminos
  - Oligohydraminos
  - Polyhydraminos
- Measurement techniques