

The Reproductive System: Gestational Changes in the Female

- I. Introduction
 - A. Definition = the time a zygote, embryo, and fetus is carried in the female reproductive tract
 - B. Time period = ~266 days from fertilization
 - C. *Obstetrics* = the specialized branch of medicine that deals with pregnancy, labor, and the period immediately following birth

- II. Anatomical Changes of Uterus
 - A. Occupies most of pelvic cavity by end of month 3
 - B. At full-term, occupies most of the abdominal cavity
 - 1. Liver, intestines and stomach are pushed upward
 - 2. Elevates diaphragm
 - 3. Widens thoracic cavity
 - 4. Ureters and urinary bladder are compressed

- III. Physiological Changes
 - A. General:
 - 1. Weight gain (from fetus, amniotic fluid, placenta, uterus, and water)
 - 2. Increased storage of proteins, triglycerides, and minerals
 - 3. Marked breast enlargement in preparation of lactation
 - 4. Lower back pain due to *lordosis*
 - B. Cardiovascular Changes:
 - 1. Increase in SV and CO by 30%
 - 2. Increase in HR by 10-15%
 - 3. Increase in blood volume by 30-50%
 - 4. Compression of IVC decreases venous blood return and results in edema in lower extremities
 - C. Pulmonary Changes:
 - 1. TV and ERV increase 30-40%
 - 2. Functional residual capacity may decrease by 25%
 - 3. Total oxygen consumption increases by 10-20%
 - D. GI Changes:
 - 1. Increased appetite
 - 2. Decreased motility (constipation)
 - 3. Nausea, vomiting, heartburn
 - E. Urinary Changes:
 - 1. Higher urinary frequency, urgency, and incontinence
 - 2. Increased GFR by 30-50%
 - F. Skin Changes:
 - 1. Increased pigmentation
 - 2. Striae (striation marks)
 - G. Reproductive Changes:
 - 1. Edema and vascularity of vulva and vagina

2. Uterus weight increases from 60-80g to 900-1200g at term (from hyperplasia and/or hypertrophy)

IV. Mammary Glands

- A. Modified sudoriferous glands that produce milk
- B. Consists of 15-20 lobes separated by adipose tissue
- C. Each lobe is composed of lobules composed of CT and milk secreting glands called alveoli
- D. Production/Flow of milk:
 1. Milk is produced by alveoli and passes into
 2. Secondary tubules then into
 3. Mammary ducts then into
 4. Lactiferous sinuses (near nipple) then into
 5. Lactiferous ducts and exits through the
 6. Nipple