Male Reproductive System Outline

- Testis
- Prostate
Testicular Cancer

- Peak incidence: 15-35
- Firm, painless enlargement of the testis
- Some present with metastases
- Treatable – curable! – if detected early
Testicular Cancer Classification

- Seminoma
- Non-seminoma
  - Embryonal carcinoma
  - Yolk sac tumor
  - Choriocarcinoma
  - Teratoma
Seminoma

• Half of all testicular cancers
• Arise from germinal epithelium of seminiferous tubules
• “Spermatocytic” variant occurs in older patients; better prognosis
Nonseminomas

• Embryonal tumor (undifferentiated stem cells)
• Yolk sac tumor (yolk sac cells)
• Choriocarcinoma (immature placental cells)
• Teratoma (somatic tissue cells)
Teratoma
Tumor markers

• Used mostly for following patients over time

• Human chorionic gonadotropin (hCG)
  • Normally made by placental cells
  • ↑ in choriocarcinoma

• Alpha-fetoprotein (AFP)
  • Normally made by fetal yolk sac cells
  • ↑ in yolk sac and embryonal tumors
Treatment of Testicular Cancer

• Overall, prognosis is good
  • If detected early, 90% cure rate
  • 8000 new cases a year, only 400 deaths.

• Seminomas
  • Often remain localized until large
  • Metastasize locally first, then later, distantly
  • VERY sensitive to radiation and chemotherapy

• Nonseminomas
  • Metastasize earlier, farther
  • Worse prognosis
Male Reproductive System Outline

- Testis
- Prostate
  - Benign hyperplasia
  - Carcinoma
Benign Prostatic Hyperplasia

• Very common! Present in 20% of 40 year-olds, 90% of 80 year-olds
• Usually arises in transitional zone (around urethra)
• Half of cases have signs/symptoms:
  • Enlarged prostate
  • Urinary obstruction (hesitancy, nocturia, etc.)
• Probably due to excessive androgen stimulation
Benign hyperplasia
Benign hyperplasia
Prostate Cancer

- Most common cancer in men; causes as many deaths as colon cancer
- Peak incidence: age 65-75
- Cause: androgens + genetics + environment
- Early disease: no symptoms, but palpable nodule
- Later: local pain/obstruction
Top 10 Cancers in US

Don’t memorize!
But do check out the difference between incidence and mortality.
Morphology of Prostate Cancer

• Most develop in peripheral zones of prostate
• Most prostate cancers are adenocarcinomas
• Better differentiated = better prognosis
Prostatic carcinoma
Prostatic carcinoma
Prostate-Specific Antigen (PSA)

- Enzyme made by prostatic epithelial cells
- PSA <4 is normal; PSA >10 suggests cancer
- But PSA can go up in benign disorders too
- Questionable usefulness as screening test
Prognosis of Prostate Cancer

- Treatment: surgery, radiation, hormonal therapy
- Overall 5 year survival = 98%
- Long-term survival depends on stage