Male Reproductive System
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Male Reproductive System Outline

- Testis
- Prostate
Clinical Features of Testicular Cancer

• Common in men between 15-35
• Firm, painless enlargement of the testis
• Some present with metastases
• Treatable – curable! - if detected early
Self-Exam: Look for These Things

• Small, painless lump
• Enlarged testicle
• Feeling of heaviness in testicle or groin
• Change in the way the testicle feels
• Accumulation of fluid
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
Seminoma
Nonseminomas

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

• Important for staging and follow-up.

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

• Alpha-fetoprotein (AFP)
  • Normally made by fetal yolk sac and other cells
  • ↑ in yolk sac tumors and embryonal carcinoma
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
  - Nodular hyperplasia
  - Carcinoma
Nodular Hyperplasia

• Very common! 90% of men have it by their 70s.
• Big prostate
• Usually affects central zone of the prostate
• Symptoms (in 10% of patients): hesitancy, urgency, nocturia, poor urinary stream.
• Cause: excessive androgen stimulation
Nodular hyperplasia
Nodular hyperplasia
Clinical Features of Prostate Cancer

• Peak incidence: 65-75
• Most common, 2nd deadliest cancer in men
• Cause: androgens + genetics + ?environment
• Symptoms: asymptomatic, then palpable nodule, then local pain/obstruction
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

- Prognosis depends on stage (and grade)
- Treatment: surgery, radiation, hormonal therapy
- Limited disease: 90% survive 10+ years
- Metastatic disease: 10-40% survive 10+ years