Oncologic Imaging

Kenneth L. Piece, M.D.
Stritch School of Medicine

GOALS OF PRESENTATION
• Familiarize participant with Pathology commonly seen in Oncology patients using CT
• Investigate other imaging modalities useful in Oncological Dx
• Discuss practical issues in radiological imaging

OVERVIEW
• Anatomy most readily displayed in CT modality
• MR to supplement
• Occasionally US/ plain film/ mammography
BREAST CA

- CT shows advanced disease, mammography and MR for local
- Axillary, int mamm LN seen on CT
- Post RT changes of lung, bones, soft tissue
  - skin thickening, pulm fibrosis, bone sclerosis
- recurrence can be local - focal mass in axilla or chest wall
BRONCHOGENIC CA

• CT modality of choice
• 60% are central- hilar mass, pneumonia
• 40% are peripheral- spiculated, cavitate
• Evaluate nodes for staging >1-1.5cm significant
LYMPHOMA

- CT modality of choice
- Mediastinal lymphadenopathy common
- CT helpful in Hodgkin’s - determines stage and treatment
- CT good for follow-up in both
- Can affect lungs less commonly
HEPATOCELLULAR CARCINOMA

- More common in Asia, Africa
- Usually due to EtOH in US
- Can be mass, nodular or diffuse
- Non-necrotic areas enhance, necrotic areas lower density
- Can invade portal/hepatic vein
PANCREATIC CANCER

- Advanced at time of Dx
- Poor prognosis
- 65% in pancreatic head
- Findings include mass, hypodensity, dilated duct, biliary obstruction, local invasion of vessels
LYMPHOMA

- CT modality of choice
- CT good for follow-up in both
- With or without splenomegaly
- Follows vessels
RENAL CELL CARCINOMA

• Common, can present as painless hematuria
• CT for Dx and staging
• Findings
  • pre - hypo to hyperdense
  • post - most enhance, but less than kidney
  • invasion of renal v, IVC, nodes
ADRENAL GLANDS

- Adenomas
  - unilateral, round, low density, 2-5 cm
  - most not functional
- Metastases
  - >5 cm, higher density, bilateral
  - lung most common
- Carcinoma - rare
PROSTATE CARCINOMA

- CT planning very useful for better targeting
- CT predicts local extent 65%, 70% for lymph nodes
- Prostate usually enlarged, but can be NL
- Can invade bladder base, seminal vesicles, rectum
CERVICAL CARCINOMA

- Most common gynae ca in world
- 5 yr survival rate 71%, 10% for distant spread
- Findings
  - soft tissue mass lower uterus
  - nodes
  - local invasion
BONE DISEASE

- Useful for evaluation of mets in prostate CA
- Pathologic fracture
  - metastatic disease destroys bone, non-traumatic fx
  - dx’d on plain films, but CT and MR helpful
- Primary bone tumors in the pelvis