Sarcoma Reconstruction
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Financial Disclosures

- None
Learning Objectives

- Sarcoma basics
- Sarcoma reconstruction
- Nursing issues
Sarcoma Prevalence

- Primary Osseous Malignancies 2,000-2,500/year
- Primary Osseous Benign Tumors 200,000
- Soft Tissue Sarcomas 7,000-8,000
- Benign Soft Tissue Tumors 400-500,000
- Cases of Carcinoma ~1,000,000
- Breast 230,000
- Osseous Metastases 300-500,000
Sarcoma

- Both genders
- All ages
- Head to Toe
- Superficial to Deep
Bone Tumors

- **Age**
  - <21yo
    - ~2/3 primary tumors are malignant
  - >21yo
    - Most lesions are benign

- **Pain**
  - Expansion of bone cortex
  - Fracture
  - Soft tissue compression
  - Tumor pain often constant
  - Referred pain
History

- Past surgical history/biopsies
- Family history
- Soft tissue masses
  - How long has the mass been present?
  - Is the mass changing in size?
  - Is there a trauma or cancer history?
  - Are there any systemic signs?
  - Is the mass painful?
Examination

- Soft Tissue Masses
  - Size
    - > 5cm concerning for cancer
  - Character
    - Soft vs. firm
    - Mobile vs. fixed
    - Superficial vs. deep
  - Additional exam
    - Lymph node
    - Abdominal
    - Breast
Complicating Factors

- Radiation therapy
  - Pre-operative
  - Post-operative
- Chemotherapy
- Tobacco
- Vascular Disease
- Health care access
Sarcoma Multidisciplinary Team

- Orthopedic Oncology
- Surgical Oncology
- Plastic Surgery
- Vascular Surgery
- Radiology
- Radiation Oncology
- Pathology
- Medical Oncology
- Rehabilitation
- Nursing

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Chemotherapy

- **Timing**
  - Pre-operative vs Post-operative
  - Surgical considerations

- **Osteosarcoma**
  - Low grade – no
  - Mid to high grade – Yes

- **Chondrosarcoma**
  - No

- **Soft tissue sarcoma**
  - Yes
Radiation therapy

- Osteosarcoma and Chondrosarcoma
  - Generally No

- Soft Tissue Sarcoma
  - Generally Yes
  - Pre-operative vs Post-operative
  - Intraoperative

- Can also cause Cancer!
Case Example – Low grade soft tissue sarcoma

- 58 year old female
- “Boil” debrided/biopsied by dermatologist
- Pathology showed undifferentiated low grade soft tissue sarcoma
- No chemo
- No radiation
Case Example – Low grade soft tissue sarcoma

- 11/2/08
  - Wide Local Excision and gracilis flap with skin graft
Case Example – Low grade soft tissue sarcoma

- Progression of healing/edema

Intraoperative  2 weeks  4 weeks  2 years
Case Example – Low grade soft tissue sarcoma

- Post-Operative Care
  - Bedrest/elevation for 5-7 days
  - Start dangling 15 minutes
  - Weightbearing
  - Wrapping
  - Pressure Stockings
Case Example - Osteoradionecrosis

- 59 year old male
- Manual Laborer
- Histiocytoma 2002
  - Excision
  - STSG
  - Radiation Therapy
- 9/2009
  - Wound appeared
  - Progressed
Case Example - Osteoradionecrosis

- 3/8/2010
  - Radical Debridement
  - Osteoradionecrosis
  - IV Antibiotics
Case Example - Osteoradionecrosis

- 3/11/2010
  - Free ALT flap
  - Non-weight bearing
- 7/6/2010
  - Intramedullary Rod
Case Example – High grade soft tissue sarcoma

- 38 year old male
- 5 year history of progressive growth
- Biopsy – Spindle Cell Sarcoma
Case Example – High grade soft tissue sarcoma

- 4/2010
  - Radical resection
  - Lymph Node Dissection
  - Exposed vessels
Case Example – High grade soft tissue sarcoma

Sartorius and VRAM flap Reconstruction
Case Example – High grade soft tissue sarcoma

- 32 year old male
- Rapidly progressive tumor right thigh
- 35cm in greatest dimension
- Grew through chemotherapy
Case Example – High grade soft tissue sarcoma

Filet of leg free flap reconstruction
Case Example – High grade soft tissue sarcoma

Temporary inset of the flap prior to tumor extirpation
Case Example – High grade soft tissue sarcoma

External Hemipelvectomy 3 days later
Case Example – High grade soft tissue sarcoma

Repair of hernia and flap inset
Case Example – High grade soft tissue sarcoma

4 months after surgery
Case Example – Low grade soft tissue sarcoma

- 32 year old male
- 5cm Synovial cell sarcoma left groin
Case Example – Low grade soft tissue sarcoma

Sartorius and VRAM flap Reconstruction
Case Example – Low grade soft tissue sarcoma

Post-operative lymphedema
Lymphovenular Bypass
Lymphovenular Bypass

2 Months post-operative result
Case Example – Fracture in Allograft

- 32 year old male
- Left hip chondrosarcoma
  - 1996 resection and allograft femur placement
- 12/2010
  - Revision of hardware to Intramedullary rod
- 2/2011
  - Develops fracture at allograft/native bone junction
Case Example – Fracture in Allograft

- 4/2011
  - Medial Epicondyle Periosteal Flap
Case Example – Fracture in Allograft

4 weeks 10 weeks 14 weeks 16 weeks
Thank You!