THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

Department of Surgery

Initial Evaluation of Soft Tissue Tumors

Ashley M. Holder, MD, FACS
Assistant Professor of Surgery
Section Chief of Melanoma/Sarcoma Surgery
Division of Surgical Oncology

@UABSurgery

1

Avoiding Whoops…

18 - 53% of Patients

Seen at

Sarcoma Referral Centers

Had

NON-oncologic Inadvertent Resections

M. Venkatesan et al. *EJSO* 38 (2012) 346-351.

2

Likely Benign: Lipomas are Everywhere

3

- Sliding edge
- Soft, Mobile
- Not growing Rapidly
  - Patient may think so: Weight Loss/Gain
- ABOVE the fascia
- Small (5cm or less)

3

RED FLAGS

4

MORE factors → MORE likely Soft Tissue Sarcoma or other malignancy

1. Larger than 5cm in largest dimension
2. Rapid growth
3. Deep to fascia (typically NOT mobile)
4. Sudden onset pain in painless lump
5. Recurrent lump (prior excision)

**Risk factors: XRT, Li Fraumeni, HNPCC/Lynch, or Neurofibromatosis

M. Venkatesan et al. *EJSO* 38 (2012) 346-351.

4

Morbidity of Initial Unplanned Excision

5

- Additional resection more extensive
  - Possible need for soft tissue reconstruction
  - Complications and functional loss
  - Difficult to determine surgical safety margin
    - Postoperative imaging confounded by reactive changes
- Inappropriately placed skin incision → tumor contamination

M. Venkatesan et al. *EJSO* 38 (2012) 346-351.

5

Workup

6

- Name It → Stage It (If Indicated) → Treat It (Dr. David Jaques)
- MRI with and without contrast, ensuring entire lesion is visualized
  - CT with contrast sometimes helpful for vascular involvement

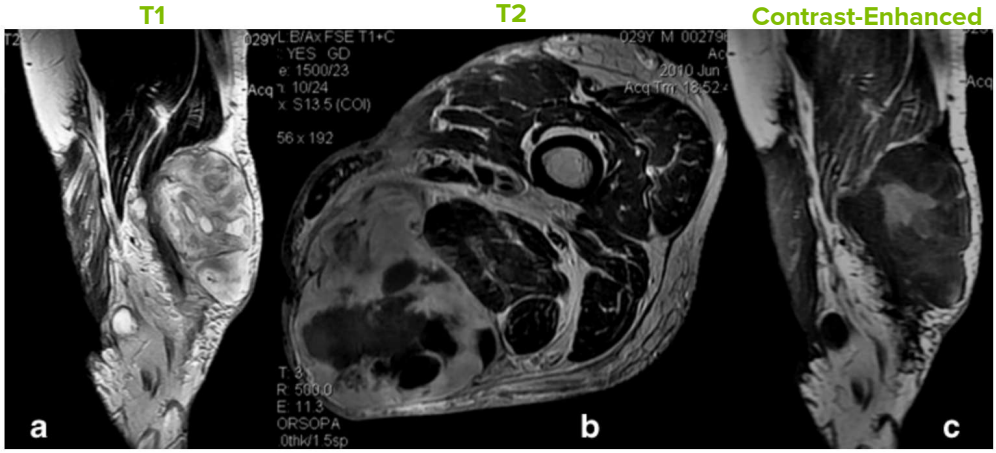
- Concerning Imaging Findings:
  - Septations
  - Solid Components
  - Peripheral Post-Contrast Enhancement, especially with necrotic center

M. Venkatesan et al. *EJSO* 38 (2012) 346-351.

6

MRI Findings

T1 T2 Contrast-Enhanced

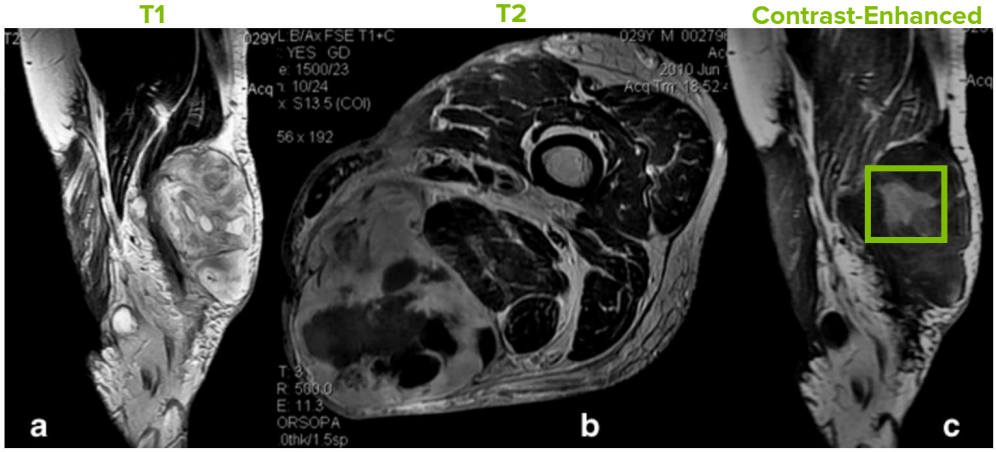


Aga P et al. *Indian J Surg Oncol* 4 (2011) 271-279.

7

MRI Findings: Where Should the Needle Go?

T1 T2 Contrast-Enhanced



Aga P et al. *Indian J Surg Oncol* 4 (2011) 271-279.

8

Name It: Biopsy Approaches

9

- Excisional Biopsy: Small (<5 cm) and above the fascia
- Incisional Biopsy: If Image-Guided Core Needle Biopsy Unavailable
  - NO Transverse Incisions
  - Orient Incision Longitudinally on Extremity
- Image-Guided Core Needle Biopsy:
  - MUST discuss with radiologist performing
  - Excise needle track at time of definitive resection
  - Sample MOST concerning area (enhancing, solid, or septation)

9

Staging

10

- Most Sarcomas metastasize via Hematogenous Route → Pulmonary Mets
  - Non-Contrast Chest CT

- Few metastasize to LNs → SLNB v Imaging of draining LN basin:
  - U – Undifferentiated Pleomorphic Sarcoma
  - S – Synovial Sarcoma
  - C – Clear Cell Sarcoma
  - A – Angiosarcoma
  - R – Rhabdomyosarcoma
  - E – Epithelioid

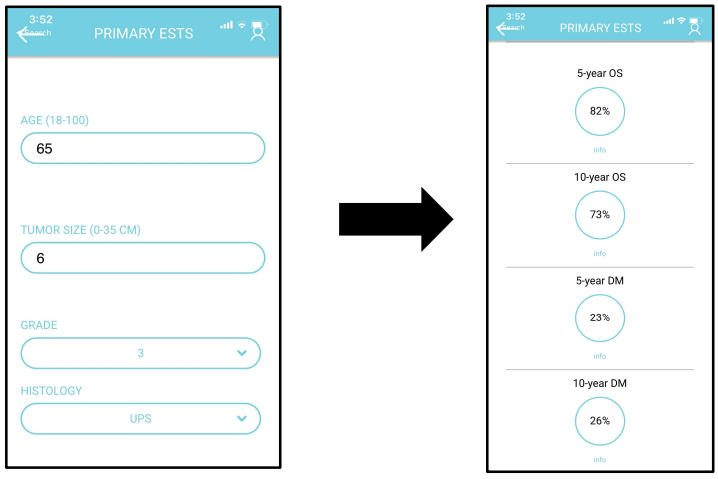
10

Pearls

- Core shows adipose → *MDM2* amplification to determine if liposarcoma
- Low-grade, small (<5cm) superficial STS → resect wide (>1cm) margins
- Desmoid → Don't forget to consider FAP
- Dermatofibrosarcoma Protuberans (DFSP):
  - If large, start with 2cm margins
  - If cannot close primarily, temporarily close (wound vac or bolster)
- Always appropriate to refer to a Sarcoma Center at any point in Workup

11

SARCULATOR App for Prognosis



12

Call Us! We want to Help!

13

Kristy Broman, MD, MPH
(205) 304-1203

Ashley Holder, MD
(205) 757-5638

Lisa Kafchinski, MD
(775) 224-0414

13

Questions?

14

14