Unknown Musculoskeletal Tumor Cases Part A
Cases 1-10

James C. Wittig, MD
Orthopedic Oncologist
Sarcoma Surgeon
www.TumorSurgery.org
CASE #1

• 44-year-old woman presented with anterior left knee pain and swelling/burning sensations. Her pain arose 8 months ago when she birthed triplets. She received a cortisone injection and her symptoms improved. CBC showed a low RBC, HGB, HCT, and monocyte count, but a high neutrophil count. All other blood work appeared unremarkable. MRI’s are included. The mass was removed. Low and high power histology slides are included.
Protein Density Weighted - TSE
3D-Watsf Try
PDW-SPIR PH FAST
Low Power
High Power
*Diagnosis Next
PVNS
CASE #2

19 year old female with a mildly painful swelling on the outside of her left knee for several months. The patient gave a history of a twisting injury to the knee several months prior to the onset of pain. The patient was otherwise healthy. She was born in the U.S. and gave no history of travel. There were no fevers, night sweats or weight loss. Blood tests were normal. The lesion was low to intermediate signal on T1 and intermediate to high signal on T2 weighted images. The tumor diffusely enhanced with contrast. Bone scan was performed. A biopsy was obtained.
MRI
MRI with Gadolinium Contrast
T1 Weighted Axial MRI
Bone Scan Demonstrates Increased Activity in Neoplasm
GCT of proximal fibula
CASE #3

- 15 year old male with pain in right tibia for 6 months. The mother noticed that the child had a bowing deformity of the tibia for many years. X-ray and T-2 weighted MRI are shown. Biopsy sample is shown. The Biopsy sample demonstrated positive staining for keratin.
*Diagnosis Next
Adamantinoma
CASE #4

- 63 yo female
- Progressive pain in the left thigh
*Diagnosis Next*
Multiple Myeloma
CASE #5

- A 14 year old boy presented with 4 months of right knee pain and swelling. The child was an avid basketball player. There was no fever, night sweats or weight loss. His laboratory studies demonstrated an elevated alkaline phosphatase level. His ESR was normal. Workup included Plain radiographs, MRI, CT scan and bone scan. A CT scan of his chest was negative. A biopsy was also performed. The results of his workup are shown on the following slides.
T1 Weighted MRI
T2 Weighted MRI
T1 Fat Suppressed with Gadolinium
CT Scan
Bone Scan
*Diagnosis Next
Conventional Intramedullary Osteosarcoma
CASE #6

50 year old male, left hand dominant, who presented with a mass overlying his left anterior elbow joint. He thought the mass was present for about 1 year and slowly increased in size. There was no pain. His neurological examination of his left upper extremity was normal. There were no lymph nodes palpable in his left axilla. The patient recalled pulling very hard on a doorknob about 1 year ago and he felt a slight pain in the elbow that went away after 1 week. The mass then began to grow.
T1 Sagittal MRI
T2 MRI
T1 Axial MRI
T2 Axial MRI
*Diagnosis Next
Myxoid Liposarcoma
CASE #7

- This is a 14 year old female basketball player who presented with 3 months of pain in her right shoulder. The pain initially started as a dull ache and progressively worsened. Over the past 3 weeks there has been swelling in the shoulder. There have been no fevers. The patient reported slight relief of the pain after taking ibuprofen.

On physical examination the right shoulder demonstrated mild swelling and mild restriction in range of motion.
Plain Radiograph
MRI T1 Weighted Coronal
MRI T2 Weighted Coronal
MRI T2 Weighted Axial
CT Axial Slice
CT Reconstruction
Bone Scan
Gross Pathology
Pathology—Low Power
Pathology—High Power
Van Kossa Stain

*Diagnosis Next
Chondroblastoma
A 15-year-old male presented a mass in his right upper extremity. He felt a minor twinge in his arm while playing baseball 6 months before the visit and noticed a mass 2 months prior to initial evaluation. He complained of a rapidly enlarging, firm, immobile, and painless mass in his upper arm. Physical examination showed a large, non-tender mass in his right biceps region. There was neither erythema nor axillary adenopathy. There was no fever, weight loss, or night sweats. He had full range of motion in his right shoulder, elbow, wrist and digits without discomfort and exhibited normal motor function. The patient had full sensation throughout his shoulder, arm, and hand. Immunohistochemical stains were positive for CD31, CD34, and D2-40.
T1- weighted MR
T1-weighted fat suppressed contrast
T2- weighted MR
Angiosarcoma
CASE #9

- 48 year old male complaining of right hip pain that radiated down his leg. ROM was limited in his right lower extremity. MRI showed a lesion in the right acetabulum/pelvis with soft tissue involvement. WBBS showed increased uptake in the right acetabulum. Patient’s sections demonstrated necrosis. Immunohistochemistry stained positive for CD-99 and stained negative for CD-56, S-100 protein, and Desmin.
PET/CT of body
T-2 Sagittal Fat Saturated
*Diagnosis Next
Ewing’s Sarcoma
CASE #10

- A 53 year old active female presented with swelling in her left upper thigh for 2-3 weeks. The patient complained of muscle soreness after intentionally losing weight by running. She had full ROM with no numbness or tingling. MRI showed a solid, partially necrotic and nonspecific mass on her vastus medialis muscle. The mass measured 82 mm in craniocaudal dimension. Immunochemistry revealed positivity for Vimentin and MIC1. Stains for myoglobin, S-100 protein, and pankeratin were negative. There was patchy staining for smooth muscle actin, myogenin, and desmin.
PET/CT Whole Body Exam
Axial T2 FGRE S
Axial FSE T2 FAT SAT
Axial FSE T-1
Sagittal STIR
COR STIR
High Grade Pleomorphic Sarcoma
Thank You!
www.TumorSurgery.org