

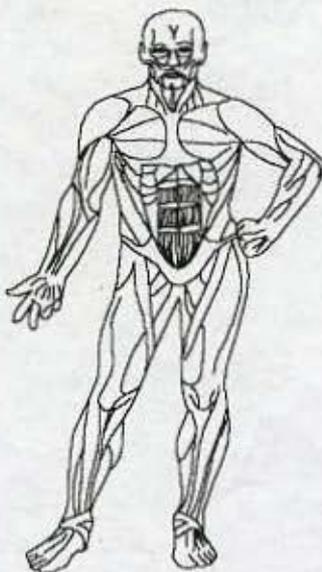
CALIFORNIA  
TUMOR TISSUE REGISTRY

1162

## “SOFT TISSUE PATHOLOGY”

Study Cases, Subscription A

May 2002



**California Tumor Tissue Registry**  
c/o: Department of Pathology and Human Anatomy  
Loma Linda University School of Medicine  
11021 Campus Avenue, AH 335  
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Web page: [www.cttr.org](http://www.cttr.org)  
Web site & Case of the Month: [www.cttr.org](http://www.cttr.org)

**Target audience:**

Practicing pathologists and pathology residents.

**Goal:**

To acquaint the participant with the histologic features of a variety of benign and malignant neoplasms and tumor-like conditions.

**Objectives:**

The participant will be able to recognize morphologic features of a variety of benign and malignant neoplasms and tumor-like conditions and relate those processes to pertinent references in the medical literature.

**Educational methods and media:**

Review of representative glass slides with associated histories.  
Feedback on consensus diagnoses from participating pathologists.  
Listing of selected references from the medical literature.

**Principal faculty:**

Weldon K. Bullock, MD  
Donald R. Chase, MD

**CME Credit:**

Loma Linda University School of Medicine designates this continuing medical education activity for up to 2 hours of Category I of the Physician's Recognition Award of the American Medical Association.  
CME credit is offered for the subscription year only.

**Accreditation:**

Loma Linda University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians.

**Contributor: Gholam Pezeshpour, M.D.**  
**Fontana, CA**

**Case No. 1 - May 2002**

**Tissue from: Left posterior thigh**

**Accession #29280**

**Clinical Abstract:**

A painful mass developed in the left posterior thigh of this 16-year-old female.

**Gross Pathology:**

A 3.0 cm diameter well-circumscribed, partially encapsulated mass was removed from the deep muscle of the thigh.

**SPECIAL STUDIES:**

Vimentin	positive
Actin	positive
S-100	negative
Desmin	negative
Cytokeratin	negative

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**Contributor: Ellen Ko, M.D.**  
**Birmingham, AL**

**Case No. 2 - May 2002**

**Tissue from: Right atrium**

**Accession #29366**

**Clinical Abstract:**

While being evaluated for fatigue, nausea and vague epigastric discomfort after eating, this 66-year-old old male was discovered to have a mass in his right atrium.

**Gross Pathology:**

The slightly irregular to smooth glistening mass measured 7.0 x 6.0 x 2.5 cm and ranged in color from tan to yellow to red.

**Contributor: LLUMC Pathology Group (wc)**  
**Loma Linda, CA**

**Case No. 3 - May 2002**

**Tissue from: Right shoulder**

**Accession #29380**

**Clinical Abstract:**

After several years of noting a mass in her right shoulder, this 32-year-old female opted to have it removed.

**Gross Pathology:**

A 10 cm disc of skin and subcutaneous tissue had a 4.2 x 3.8 x 3.2 cm centrally-placed raised nodule. The cut surface showed a homogeneous fleshy pink well circumscribed mass.

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**Contributor: John McGill, M.D.**  
**Pasadena, CA**

**Case No. 4 - May 2002**

**Tissue from: Abdomen**

**Accession #29182**

**Clinical Abstract:**

This 52-year-old male was found to have an abdominal mass.

**Gross Pathology:**

The encapsulated abdominal mass measured 45.0 x 43.0 x 15.0 cm and was removed with attached spleen and a portion of diaphragm. The cut surface was variegated pale to golden yellow and gray. Although predominantly solid and lobulated, the parenchyma did show some cystic degeneration and focal ill-defined calcification.

**Contributor: LLUMC Pathology Group (mp)**  
**Loma Linda, CA**

**Case No. 5 - May 2002**

**Tissue from: Right lower extremity**

**Accession #29096**

**Clinical Abstract:**

Over a three-month period, this 40 year old woman noticed a rapidly growing mass on the lateral aspect below her right knee. An MRI showed a 10 x 4.8 x 7.3 cm mass in the posterior compartment of the right leg along the later aspect of the knee.

**Gross Pathology:**

The 330 gram specimen included a 15.3 x 9.5 x 5.2 cm portion of lobulated adipose tissue with an overlying ellipse of skin. Within the adipose tissue was a 10.8 x 7.0 x 4.0 cm pink tan lobulated mass.

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**Contributor: Chisa Aoyama, M.D.**  
**Sylmar, CA**

**Case No. 6 - May 2002**

**Tissue from: Abdominal wall**

**Accession #28888**

**Clinical Abstract:**

For seven months, this 60-year-old male missed multiple appointments for surgical resection of an enlarging abdominal wall mass. When it was exquisitely tender, he reported to the ER and the mass was excised.

**Gross Pathology:**

The 256 gram, 14.0 x 6.5 x 7.5 cm irregular portion of fibrofatty tissue had a multinodular cut surface with fleshy areas and foci of necrosis.

**SPECIAL STUDIES (Outside facility):**

Vimentin	positive
Keratin	negative
CD68	positive
S-100	focal positivity

**Contributor: Robert H. Zuch, M.D.**  
**Baldwin Park, CA**

**Case No. 7 - May 2002**

**Tissue from: Left anterior hip**

**Accession #29118**

**Clinical Abstract:**

After experiencing pain and swelling in the upper thigh for three months, this 24-year-old male was found to have a left anterior thigh mass. Following radiation therapy, a radical resection was performed.

**Gross Pathology:**

The resected soft tissue specimen, with overlying skin, measured 18.0 x 13.0 x 5.5 cm, and contained a 4 x 5 x 7 cm bulging, bosselated gray-white mass.

**SPECIAL STUDIES (Outside facility):**

S-100	focally positive
Vimentin	diffuse strong positivity
CD99	diffuse strong positivity
Cytokeratin	focal strong positivity
EMA	focal strong positivity
Desmin	negative

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**Contributor: Howard Otto, M.D.**  
**Cheboygan, MI**

**Case No. 8 - May 2002**

**Tissue from: Retroperitoneum**

**Accession #29073**

**Clinical Abstract:**

For many years this 71-year-old female experienced left lower quadrant pain. After an exhaustive but non-diagnostic work-up, she requested an exploratory laparotomy. At surgery, a firm mass the 'size of a hardball' was found in the left mid-retroperitoneum. It was not associated with the mesentery, the aorta or the left ureter.

**Gross Pathology:**

The 52 gram, 6.0 x 5.5 x 4.0 cm firm nodule had a gritty gray whorled cut surface.

**Contributor: LLUMC Pathology Group (cz)**  
**Loma Linda, CA**

**Case No. 9 - May 2002**

**Tissue from: Abdominal wall**

**Accession #29094**

**Clinical Abstract:**

This 9-year-old male was found to have an abdominal wall mass, felt to be a recurrence of a previously resected tumor associated with the urinary bladder.

**Gross Pathology:**

The 21 gram, 4.5 x 4.5 x 3.0 cm portion of fibroadipose tissue contained a 2.7 x 2.4 x 2.4 cm well-circumscribed white whorled nodule.

**SPECIALS STUDIES:**

Desmin            focally positive

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**Contributor: Farooq Ali, M.D.**  
**Ventura, CA**

**Case No. 10 - May 2002**

**Tissue from: Leg**

**Accession #29193**

**Clinical Abstract:**

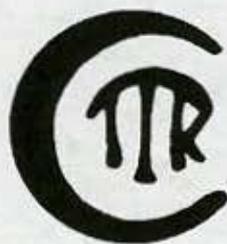
A previously healthy 19-month-old male developed an enlarging solid subcutaneous mass over the lateral aspect of the left lower leg.

**Gross Pathology:**

A portion of skin with underlying subcutaneous tissue and deep fascia contained a rubbery, oval, circumscribed mass measuring 5.0 x 4.8 cm x 3.0 cm. The mass appeared to be contiguous with both dermis and the deep fascia.

**SPECIAL STUDIES:**

S-100            negative  
CD34            positive

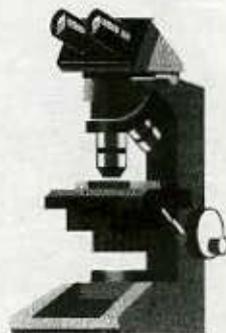


CALIFORNIA  
TUMOR TISSUE REGISTRY

*SOFT TISSUE PATHOLOGY*

Minutes – Subscription A

May 2002



**SUGGESTED READING (General Topics from Recent Literature):**

- Biological and Clinical Significance of Cytogenetic Abnormalities in Low-Risk and High-Risk Gastrointestinal Stromal Tumors. Gunawan B, Bergmann F, Hoer J, et al. *Hum Pathol* 2002; 33(3):316-321.
- Molecular Characterization of Soft Part Tumours. A Gene Expression Study. Nielson TO, West RB, Linn SC, Alter O, et al. *Lancet* 2002; 359(9314):1301-1306.
- MAGE Antigen Expression in Monophasic and Biphasic Synovial Sarcoma. *Hum Pathol* 2002; 33(2):225-229.
- C-Kit Expression in Pediatric Solid Tumors. Comparative Immunohistochemical Study. Smithey BE, Pappo AS and Hill DA. *Am J Surg Pathol* 2002; 26(4):486-492.

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Web site, Case of the Month and Case Diagnoses: [www.cttr.org](http://www.cttr.org)

## FILE DIAGNOSES

CTTR Subscription A

May 2002

**Case 1:**

Nodular fasciitis, thigh  
T-Y9100, M-76130

**Case 2:**

Cardiac (atrial) myxoma  
T-32000, M-88400

**Case 3:**

Dermatofibrosarcoma protuberans (DFSP), shoulder  
T-Y1220, M-88323

**Case 4:**

Well-Differentiated liposarcoma, abdomen  
T-Y4100, M-88515

**Case 5:**

Myxoid liposarcoma, lower extremity  
T-Y1800, M-88523

**Case 6:**

Pleomorphic high grade sarcoma (with phenotype of so-called MFH), abdominal wall  
T-Y4100, M-88023

**Case 7:**

Calcifying monophasic synovial sarcoma, hip  
T-Y1500, M-90403

**Case 8:**

Smooth muscle neoplasm of uncertain malignant potential, retroperitoneum  
T-Y4600, M-88900

**Case 9:**

Embryonal rhabdomyosarcoma, spindle cell type, abdominal wall  
T-Y4100, M-89103

**Case 10:**

Dermatofibrosarcoma protuberans (DFSP), leg  
T-Y9400, M-91501

Bay Area - Myxoid fibrous histiocytoma (2); Myxofibroma (1); Giant cell fibroblastoma (1)  
Fontana (Kaiser Permanente) - Intramuscular fasciitis (3); vs. malignant fibrous histiocytoma (3)  
Fresno (St. Agnes) - Nodular fasciitis  
Hayward (St. Rose Hospital) - Malignant fibrous histiocytoma, giant cell type  
Long Beach - Nodular fasciitis (5)  
Monterey (Community Hospital of Monterey Peninsula) - Rhabdomyosarcoma (3) vs. nodular fasciitis (1)  
Monterey Park (Garfield Medical Center) - Nodular fasciitis (benign)  
Oakland (Kaiser Permanente) - Proliferative fasciitis  
Orange (UCI Medical Center Residents) - Nodular fasciitis  
Riverside/Moreno Valley - Nodular fasciitis, intramuscular type (1); Nodular fasciitis with prominent giant cells (1)  
Sacramento (UCDMC) - Giant cell tumor of tendon sheath  
San Diego (Naval Medical Center) - Nodular fasciitis, favor intravascular type (1); Intravascular fasciitis (1)  
Santa Barbara (Cottage Hospital) - Nodular fasciitis  
Santa Clara - Deep fibrous histiocytoma  
Santa Rosa - Soft tissue giant cell tumor of low malignant potential (3)  
Ventura (Unilab) - Benign fibrous histiocytoma (3)  
Alabama (BMC Princeton) - Giant cell fibroblastoma, thigh  
Alaska, Anchorage - Nodular fasciitis  
Colorado (Lutheran Medical Center) - Nodular fasciitis  
Florida (Baptist Medical Center) - Nodular fasciitis (3); Soft tissue giant cell tumor, low malignant potential (1)  
Florida (Munroe Regional Medical Center) - Nodular fasciitis  
Florida (Winter Haven Hospital) - Malignant fibrous histiocytoma  
Illinois, Chicago - Giant cell tumor  
Illinois (Evanston Hospital) - Myxoid malignant fibrous histiocytoma  
Indiana (Fort Wayne) - Deep fibrous histiocytoma, left posterior thigh  
Louisiana (Louisiana State University Medical Center) - Giant cell fibroblastoma  
Maryland, Bethesda - Nodular fasciitis (7); Proliferative myositis (1)  
Maryland (Johns Hopkins Hospital Residents) - Nodular fasciitis (1); Nodular fasciitis with osteoclastic giant cells (1)  
Maryland (NIH Pathology Residents) - Nodular fasciitis  
Massachusetts (Berkshire Medical Center) - Giant cell variant of nodular fasciitis  
Massachusetts (New England Medical Center) - Deep benign fibrous histiocytoma  
Michigan (Oakwood Hospital) - Nodular fasciitis  
Michigan (St. Joseph Mercy Hospital) - Nodular fasciitis  
Missouri (TMC, Kansas City) - Nodular fasciitis  
Nebraska (Creighton Pathology Residents) - Nodular fasciitis, giant cell variant  
New Jersey (Overlook Hospital) - Nodular fasciitis (3)  
New York (Long Island Jewish Medical Center) - Nodular fasciitis  
New York (Northport VA Medical Center) - Nodular fasciitis  
New York (Stony Brook University Hospital Residents) - Low-grade fibromyxoid sarcoma  
Pennsylvania (Allegheny General Hospital) - Nodular fasciitis  
Pennsylvania (Lehigh Valley Hospital) - Proliferative myositis  
Pennsylvania (Memorial Medical Center Residents) - Embryonal rhabdomyosarcoma  
Puerto Rico (University of Puerto Rico) - Giant cell tumor of the tendon sheath  
Texas, Lubbock - Fibrous histiocytoma  
Texas (ProPath Services) - Fibrous histiocytoma of soft tissues (1); Intramuscular nodular fasciitis (1)  
Texas, San Antonio - Nodular fasciitis  
Texas (Scott & White Memorial Hospital) - Nodular fasciitis  
West Virginia (Greenbrier Valley Medical Center) - Proliferative myositis  
Wisconsin (Meriter Hospital) - Nodular fasciitis  
Wisconsin, Milwaukee - Proliferative fasciitis

Australia (North Queensland Pathology Group) - Leiomyoma with giant cell. DDX: Nodular fasciitis  
Canada (Foothills Medical Center) - Nodular fasciitis with osteoclast-like giant cells  
Japan (Yamanashi Medical University) - Nodular fasciitis (2); Vascular leiomyoma (1)  
Netherlands, Amsterdam - Nodular fasciitis  
Saudi Arabia (King Khalid University Hospital Study Group) - Nodular fasciitis

**Case 1 - Diagnosis:**

Nodular fasciitis, thigh  
T-Y9100, M-76130

**Case 1 - References:**

Montgomery EA and Meis JM. Nodular Fasciitis. Its Morphologic Spectrum and Immunohistochemical Profile. *Am J Surg Pathol* 1991; 15(10):942-948.  
Allen PW. Nodular Fasciitis. *Pathol* 1972; 4(1):9-26.  
Sarangerajan R and Dehner LP. Cranial and Extracranial Fasciitis of Childhood. A Clinicopathologic and Immunohistochemical Study. *Hum Pathol* 1999; 30(1):87-92.

**Case No. 2, Accession No. 29366**

**May 2002**

Bay Area - Atrial myxoma  
Fontana (Kaiser Permanente) - Cardiac myxoma  
Fresno (St. Agnes) - Cardiac myxoma  
Hayward (St. Rose Hospital) - Atrial myxoma  
Long Beach - Myxoma (5)  
Monterey (Community Hospital of Monterey Peninsula) - Atrial myxoma  
Monterey Park (Garfield Medical Center) - Atrial myxoma and organizing thrombus  
Oakland (Kaiser Permanente) - Myxoma  
Orange (UCI Medical Center Residents) - Cardiac myxoma  
Riverside/Moreno Valley - Myxoma, cardiac (2)  
Sacramento (UCDMC) - Myxoma  
San Diego (Naval Medical Center) - Cardiac myxoma (2)  
Santa Barbara (Cottage Hospital) - Atrial myxoma  
Santa Clara - Atrial myxoma  
Santa Rosa - Atrial myxoma (3)  
Ventura (Unilab) - Myxoma (2); Cardiac myxoma (1)  
Alabama (BMC Princeton) - Atrial myxoma  
Alaska, Anchorage - Cardiac myxoma  
Colorado (Lutheran Medical Center) - Papillary fibroelastoma  
Florida (Baptist Medical Center) - Atrial myxoma (3); ? malignant epithelioid intimal sarcoma (1)  
Florida (Munroe Regional Medical Center) - Myxoma  
Florida (Winter Haven Hospital) - Atrial myxoma  
Illinois, Chicago - Atrial myxoma  
Illinois (Evanston Hospital) - Myxoma  
Indiana (Fort Wayne) - Myxoma, right atrium  
Louisiana (Louisiana State University Medical Center) - Myxoma  
Maryland, Bethesda - Myxoma (8)  
Maryland (Johns Hopkins Hospital Residents) - Cardiac myxoma (2)  
Maryland (NIH Pathology Residents) - Cardiac myxoma  
Massachusetts (Berkshire Medical Center) - Cardiac myxoma  
Massachusetts (New England Medical Center) - Atrial myxoma  
Michigan (Oakwood Hospital) - Cardiac myxoma  
Michigan (St. Joseph Mercy Hospital) - Myxoma

Missouri (TMC, Kansas City) - Atrial myxoma  
Nebraska (Creighton Pathology Residents) - Cardiac myxoma  
New Jersey (Overlook Hospital) - Atrial myxoma (3)  
New York (Long Island Jewish Medical Center) - Cardiac myxoma  
New York (Northport VA Medical Center) - Atrial myxoma  
New York (Stony Brook University Hospital Residents) - Myxoma  
Pennsylvania (Allegheny General Hospital) - Atrial myxoma  
Pennsylvania (Lehigh Valley Hospital) - Atrial myxoma  
Pennsylvania (Memorial Medical Center Residents) - Myxoma  
Puerto Rico (University of Puerto Rico) - Atrial myxoma  
Texas, Lubbock - Myxoma  
Texas (ProPath Services) - Cardiac myxoma (2)  
Texas, San Antonio - Cardiac myxoma  
Texas (Scott & White Memorial Hospital) - Myxoma  
West Virginia (Greenbrier Valley Medical Center) - Cardiac myxoma  
Wisconsin (Meriter Hospital) - Cardiac myxoma  
Wisconsin, Milwaukee - Cardiac myxoma  
Australia (North Queensland Pathology Group) - Cardiac myxoma  
Canada (Foothills Medical Center) - Atrial myxoma  
Japan (Yamanashi Medical University) - Cardiac myxoma (3)  
Netherlands, Amsterdam - Cardiac myxoma  
Saudi Arabia (King Khalid University Hospital Study Group) - Atrial myxoma

#### **Case 2 - Diagnosis:**

Cardiac (atrial) myxoma  
T-32000, M-88400

#### **Case 2 - References:**

Burke A, and Virmani R. Fascicle Tumors of the Heart and Great Vessels. *Atlas of Tumor Pathology, Third Series, Armed Forces Institute of Pathology*, Washington, D.C. 1995; 21-46.  
Burke AP and Virmani R. Cardiac Myxoma. A Clinicopathologic Study. *Am J Clin Pathol* 1993; 100(6):671-680.  
Murphy MC, Sweeney MS, Putnam JB, Jr., et al. Surgical Treatment of Cardiac Tumors. A 25-Year Experience. *Ann Thorac Surg* 1990; 49(4):612-617.  
Harris NL, NeNeeley WF, Shepard JAO, et al. Case Records of the Massachusetts General Hospital. *New Engl J of Med* 2002; 346(15):1152-1158.

#### **Case No. 3, Accession No. 29380**

**May 2002**

Bay Area - Dermatofibrosarcoma protuberans (DFSP) (4)  
Fontana (Kaiser Permanente) - Dermatofibrosarcoma protuberans (DFSP)  
Fresno (St. Agnes) - Dermatofibrosarcoma protuberans  
Hayward (St. Rose Hospital) - Dermatofibrosarcoma protuberans  
Long Beach - Dermatofibrosarcoma protuberans (5)  
Monterey (Community Hospital of Monterey Peninsula) - Dermatofibrosarcoma protuberans  
Monterey Park (Garfield Medical Center) - Dermatofibrosarcoma protuberans  
Orange (Kaiser Permanente) - Dermatofibrosarcoma protuberans (DFSP)  
Orange (UCI Medical Center Residents) - Dermatofibrosarcoma protuberans  
Riverside/Moreno Valley - Dermatofibrosarcoma protuberans (2)  
Sacramento (UCDMC) - Peripheral nerve sheath tumor  
San Diego (Naval Medical Center) - Dermatofibrosarcoma protuberans (2)  
Santa Barbara (Cottage Hospital) - Dermatofibrosarcoma protuberans  
Santa Clara - Dermatofibrosarcoma protuberans  
Santa Rosa - Dermatofibrosarcoma protuberans (3)  
Ventura (Unilab) - Dermatofibrosarcoma protuberans (3)  
Alabama (BMC Princeton) - Dermatofibrosarcoma protuberans, shoulder  
Alaska, Anchorage - Neurilemmoma (schwannoma)

Colorado (Lutheran Medical Center) - Dermatofibrosarcoma protuberans  
Florida (Baptist Medical Center) - Dermatofibrosarcoma protuberans (4)  
Florida (Munroe Regional Medical Center) - Dermatofibrosarcoma protuberans  
Florida (Winter Haven Hospital) - Dermatofibrosarcoma protuberans  
Illinois, Chicago - Dermatofibrosarcoma protuberans  
Illinois (Evanston Hospital) - Spindle cell lipoma  
Indiana (Fort Wayne) - Dermatofibrosarcoma protuberans, right shoulder  
Louisiana (Louisiana State University Medical Center) - Dermatofibrosarcoma protuberans  
Maryland, Bethesda - Dermatofibrosarcoma protuberans (8)  
Maryland (Johns Hopkins Hospital Residents) - Dermatofibrosarcoma protuberans (2)  
Maryland (NIH Pathology Residents) - Dermatofibrosarcoma protuberans  
Massachusetts (Berkshire Medical Center) - Dermatofibrosarcoma protuberans  
Massachusetts (New England Medical Center) - Dermatofibrosarcoma protuberans  
Michigan (Oakwood Hospital) - Dermatofibrosarcoma protuberans  
Michigan (St. Joseph Mercy Hospital) - Dermatofibrosarcoma protuberans  
Missouri (TMC, Kansas City) - Dermatofibrosarcoma protuberans  
Nebraska (Creighton Pathology Residents) - Dermatofibrosarcoma protuberans  
New Jersey (Overlook Hospital) - Dermatofibrosarcoma protuberans (3)  
New York (Long Island Jewish Medical Center) - Dermatofibrosarcoma protuberans  
New York (Northport VA Medical Center) - Dermatofibrosarcoma protuberans  
New York (Stony Brook University Hospital Residents) - Dermatofibrosarcoma protuberans  
Pennsylvania (Allegheny General Hospital) - Dermatofibrosarcoma protuberans  
Pennsylvania (Lehigh Valley Hospital) - Dermatofibrosarcoma protuberans  
Pennsylvania (Memorial Medical Center Residents) - Dermatofibrosarcoma protuberans  
Puerto Rico (University of Puerto Rico) - Dermatofibrosarcoma protuberans  
Texas, Lubbock - Dermatofibrosarcoma protuberans  
Texas (ProPath Services) - Dermatofibrosarcoma protuberans (2)  
Texas, San Antonio - Dermatofibrosarcoma protuberans  
Texas (Scott & White Memorial Hospital) - Dermatofibrosarcoma protuberans  
West Virginia (Greenbrier Valley Medical Center) - Dermatofibrosarcoma protuberans  
Wisconsin (Meriter Hospital) - Dermatofibrosarcoma protuberans  
Wisconsin, Milwaukee - Dermatofibrosarcoma protuberans  
Australia (North Queensland Pathology Group) - Dermatofibrosarcoma protuberans  
Canada (Foothills Medical Center) - Dermatofibrosarcoma protuberans  
Japan (Yamanashi Medical University) - Dermatofibrosarcoma protuberans (3)  
Netherlands, Amsterdam - Dermatofibrosarcoma protuberans  
Saudi Arabia (King Khalid University Hospital Study Group) - Dermatofibrosarcoma protuberans

### **Case 3 - Diagnosis:**

Dermatofibrosarcoma protuberans (DFSP), shoulder  
 T-Y1220, M-88323

### **Case 3 - References:**

Fanburg-Smith JC, and Mittinen M. Low Affinity Nerve Growth Factor Receptor (p75) in Dermatofibrosarcoma Protuberans and Other Nonneural Tumors. A Study of 1,150 Tumors and Fetal and Adult Normal Tissues. *Hum Pathol* 2001; 32(9):976-983.  
 Smith KL, Menon P and Skelton H. Immunohistochemical Characterization of Dermatofibrosarcoma Protuberans with Practical Applications for Diagnosis and Treatment. *J Am Acad Dermatol* 1998; 38(5 Pt 1):785-786.  
 Sondak VK, Cimmino VM, Lowe LM, et al. Dermatofibrosarcoma Protuberans. What is the Best Surgical Approach? *Surg Oncol* 1999; 8(4):183-189.  
 Zelger B. Sarcomas Arising in Dermatofibrosarcoma Protuberans. Collision or Illusions? *Am J Surg Pathol* 2001; 25(8):1106-1108.  
 Goldblum JR. CD34 Positivity in Fibrosarcomas Which Arise in Dermatofibrosarcoma Protuberans. *Arch Pathol Lab Med* 1995; 119(3):238-241.

### **Case No. 4, Accession No. 29182**

**May 2002**

Bay Area - Liposarcoma, low grade (3); Atypical lipoma/low grade liposarcoma (1)  
Fontana (Kaiser Permanente) - Liposarcoma, well-differentiated, sclerosing type  
Fresno (St. Agnes) - Liposarcoma (well differentiated)  
Hayward (St. Rose Hospital) - Dedifferentiated liposarcoma

Long Beach - Liposarcoma, well-differentiated (5)  
Monterey (Community Hospital of Monterey Peninsula) - Liposarcoma  
Monterey Park (Garfield Medical Center) - Pleomorphic liposarcoma  
Oakland (Kaiser Permanente) - Pleomorphic liposarcoma  
Orange (UCI Medical Center Residents) - Atypical lipomatous tumor  
Riverside/Moreno Valley - Atypical lipomatous tumor (well-differentiated liposarcoma) (2)  
Sacramento (UCDMC) - Liposarcoma  
San Diego (Naval Medical Center) - Well-differentiated liposarcoma, favor sclerosing type (2)  
Santa Barbara (Cottage Hospital) - Pleomorphic liposarcoma  
Santa Clara - Well-differentiated liposarcoma  
Santa Rosa - Well-differentiated (sclerosing) liposarcoma (3)  
Ventura (Unilab) - Atypical lipomatous tumor (3)  
Alabama (BMC Princeton) - Well-differentiated liposarcoma  
Alaska, Anchorage - Atypical lipomatous tumor (well-differentiated liposarcoma)  
Colorado (Lutheran Medical Center) - Well-differentiated liposarcoma  
Florida (Baptist Medical Center) - Liposarcoma, pleomorphic (4)  
Florida (Munroe Regional Medical Center) - Well-differentiated liposarcoma  
Florida (Winter Haven Hospital) - Liposarcoma  
Illinois, Chicago - Pleomorphic lipoma  
Illinois (Evanston Hospital) - Liposarcoma  
Indiana (Fort Wayne) - Well-differentiated liposarcoma, abdomen  
Louisiana (Louisiana State University Medical Center) - Liposarcoma  
Maryland, Bethesda - Liposarcoma with mixed pleomorphic and lipoma-like features (8)  
Maryland (Johns Hopkins Hospital Residents) - Well-differentiated liposarcoma (1); Atypical lipomatous tumor/WDLs (1)  
Maryland (NIH Pathology Residents) - Liposarcoma, pleomorphic subtype  
Massachusetts (Berkshire Medical Center) - Liposarcoma, well-differentiated  
Massachusetts (New England Medical Center) - Well-differentiated liposarcoma  
Michigan (Oakwood Hospital) - Liposarcoma, well-differentiated, sclerosing variant  
Michigan (St. Joseph Mercy Hospital) - Well-differentiated liposarcoma  
Missouri (TMC, Kansas City) - Liposarcoma  
Nebraska (Creighton Pathology Residents) - Liposarcoma, NOS  
New Jersey (Overlook Hospital) - Liposarcoma, well-differentiated (3)  
New York (Long Island Jewish Medical Center) - Pleomorphic liposarcoma  
New York (Northport VA Medical Center) - Sarcoma consistent with liposarcoma  
New York (Stony Brook University Hospital Residents) - Pleomorphic liposarcoma  
Pennsylvania (Allegheny General Hospital) - Well-differentiated liposarcoma  
Pennsylvania (Lehigh Valley Hospital) - Well-differentiated liposarcoma  
Pennsylvania (Memorial Medical Center Residents) - Well-differentiated liposarcoma  
Puerto Rico (University of Puerto Rico) - Liposarcoma, well-differentiated  
Texas, Lubbock - Sclerosing liposarcoma  
Texas (ProPath Services) - Pleomorphic lipoma (1); Liposarcoma, sclerosing type  
Texas, San Antonio - Atypical lipomatous tumor  
Texas (Scott & White Memorial Hospital) - Well-differentiated sclerosing liposarcoma  
West Virginia (Greenbrier Valley Medical Center) - Atypical lipomatous tumor  
Wisconsin (Meriter Hospital) - Low grade liposarcoma (atypical lipoma)  
Wisconsin, Milwaukee - Liposarcoma  
Australia (North Queensland Pathology Group) - Myxoid pleomorphic liposarcoma  
Canada (Foothills Medical Center) - Well-differentiated liposarcoma, sclerosing variant  
Japan (Yamanashi Medical University) - Liposarcoma, sclerosing type (2); Myxoid type (1)  
Netherlands, Amsterdam - Liposarcoma (pleomorphic)  
Saudi Arabia (King Khalid University Hospital Study Group) - Well-differentiated sclerosing liposarcoma

#### **Case 4 - Diagnosis:**

Well-differentiated liposarcoma, abdomen

T-Y4100, M-88513

#### **Case 4 - References:**

- Fletcher CD, Ackerman M, Dal Cin P, et al. Correlation Between Clinicopathological Features and Karyotype in Lipomatous Tumors. A Report of 178 Cases from Chromosome and Morphology (CHAMP) Collaborative Group. *Am J Pathol* 1996; 148(2):623-630.
- Kilpatrick SE. Histologic Prognostication in Soft Tissue Sarcomas. Grading Versus Subtyping or Both? A Comprehensive Review of the Literature with Proposed Practical Guidelines. *Ann Diag Pathol* 1999; 3(1):48-61.
- Azumi N, Curtis J, Kempson RL, et al. Atypical and Malignant Neoplasms Showing Lipomatous Differentiation. A Study of 111 Cases. *Am J Surg Pathol* 1987; 11:161-183.
- Hendricks WH, Chu Y-C, Goldblum JR, et al. Dedifferentiated Liposarcoma. A Clinicopathologic Analysis of 155 Cases with a Proposal for an Expanded Definition of dedifferentiation. *Am J Surg Pathol* 1997; 21(3):271-281.

#### **Case No. 5, Accession No. 29096**

**May 2002**

- Bay Area - Myxoid liposarcoma (4)
- Fontana (Kaiser Permanente) - Myxoid liposarcoma
- Fresno (St. Agnes) - Myxoid liposarcoma
- Hayward (St. Rose Hospital) - Myxoid liposarcoma
- Long Beach - Myxoid liposarcoma (5)
- Monterey (Community Hospital of Monterey Peninsula) - Myxoid liposarcoma (3) vs. myxofibrosarcoma (1)
- Monterey Park (Garfield Medical Center) - Myxoid liposarcoma
- Oakland (Kaiser Permanente) - Myxoid liposarcoma
- Orange (UCI Medical Center Residents) - Myxoid liposarcoma
- Riverside/Moreno Valley - Myxoid liposarcoma (2)
- Sacramento (UCDMC) - Intramuscular myxoma
- San Diego (Naval Medical Center) - Myxoid liposarcoma (1); Fibromyxoid tumor of soft parts, non-ossifying (1)
- Santa Barbara (Cottage Hospital) - Myxoid liposarcoma
- Santa Clara - Myxoma
- Santa Rosa - Myxoid liposarcoma (3)
- Ventura (Unilab) - Myxoid liposarcoma (3)
- Alabama (BMC Princeton) - Myxoid liposarcoma, knee
- Alaska, Anchorage - Myxoid liposarcoma
- Colorado (Lutheran Medical Center) - Myxoid liposarcoma
- Florida (Baptist Medical Center) - Myxoid liposarcoma (2); Myxoliposarcoma (1); Myxoid liposarcoma vs. myxoid synovial sarcoma (1)
- Florida (Munroe Regional Medical Center) - Myxoid liposarcoma
- Florida (Winter Haven Hospital) - Myxoid liposarcoma
- Illinois, Chicago - Myxoid liposarcoma
- Illinois (Evanston Hospital) - Myxoid liposarcoma
- Indiana (Fort Wayne) - Myxoid liposarcoma, right lower extremity
- Louisiana (Louisiana State University Medical Center) - Atypical myxomatosis
- Maryland, Bethesda - Myxoid liposarcoma (8)
- Maryland (Johns Hopkins Hospital Residents) - Myxoid liposarcoma (2)
- Maryland (NIH Pathology Residents) - Myxoid liposarcoma
- Massachusetts (Berkshire Medical Center) - Myxoid chondrosarcoma, extraskelatal
- Massachusetts (New England Medical Center) - Myxoid liposarcoma
- Michigan (Oakwood Hospital) - Myxoid liposarcoma
- Michigan (St. Joseph Mercy Hospital) - Myxoid (round cell) liposarcoma
- Missouri (TMC, Kansas City) - Aggressive angiomyxoma
- Nebraska (Creighton Pathology Residents) - Myxoid liposarcoma
- New Jersey (Overlook Hospital) - Myxoid liposarcoma (3)

New York (Long Island Jewish Medical Center) - Myxoid liposarcoma  
New York (Northport VA Medical Center) - Myxoid liposarcoma  
New York (Stony Brook University Hospital Residents) - Myxoid liposarcoma  
Pennsylvania (Allegheny General Hospital) - Myxoid variant of extraskelatal chondroma  
Pennsylvania (Lehigh Valley Hospital) - Myxoid liposarcoma  
Pennsylvania (Memorial Medical Center Residents) - Myxoid liposarcoma  
Puerto Rico (University of Puerto Rico) - Myxoid liposarcoma  
Texas, Lubbock - Myxoid liposarcoma  
Texas (ProPath Services) - Myxoid liposarcoma (2)  
Texas, San Antonio - Myxoid liposarcoma  
Texas (Scott & White Memorial Hospital) - Myxoid liposarcoma  
West Virginia (Greenbrier Valley Medical Center) - Rhabdomyosarcoma  
Wisconsin (Meriter Hospital) - Myxoid liposarcoma  
Wisconsin, Milwaukee - Myxoid liposarcoma  
Australia (North Queensland Pathology Group) - Myxoid chondrosarcoma. DDx: Myxoid liposarcoma  
Canada (Foothills Medical Center) - Myxoid liposarcoma  
Japan (Yamanashi Medical University) - Myxoid liposarcoma (2); Myxoid liposarcoma (1)  
Netherlands, Amsterdam - Liposarcoma (myxoid?)  
Saudi Arabia (King Khalid University Hospital Study Group) - Myxoid liposarcoma

#### **Case 5 - Diagnosis:**

Myxoid liposarcoma, lower extremity  
 T-Y1800, M-88523

#### **Case 5 - References:**

Hashimoto H, Daimaru Y and Enjoji M. S-100 Protein Distribution in Liposarcoma. An Immunoperoxidase Study with Special Reference to the Distinction of Liposarcoma from Myxoid Malignant Fibrous Histiocytoma. *Virchows Arch (A)* 1984; 405(1):1-10.  
 O'Connor ME and Snover DC. Liposarcoma. A Review of Factors Influencing Prognosis. *Am Surg* 1983; 49(7):379-384.  
 Reszel PA, Soul EH and Coventry MB. Liposarcoma of the Extremities and Limb Girdles. A Study of Two Hundred Twenty-Two Cases. *J Bone and Joint Surg* 1966; 48(2):229-244.  
 Evans HL. Liposarcoma. A Study of 55 Cases with Reassessment of Its Classification. *Am J Surg Pathol* 1979; 3(6):507-523.  
 Smith TA, Easley KA and Goldblum JR. Myxoid Round Cell Liposarcoma of the Extremities, A Clinicopathologic Study of 29 Cases with Particular Attention to Extent of Round Cell Liposarcoma. *Am J Surg Pathol* 1996; 20(2):171-180.

#### **Case No. 6, Accession No. 28888**

**May 2002**

Bay Area - Malignant fibrous histiocytoma (3); (? triton tumor)  
Fontana (Kaiser Permanente) - Malignant peripheral nerve sheath tumor  
Fresno (St. Agnes) - Malignant fibrous histiocytoma (pleomorphic)  
Hayward (St. Rose Hospital) - Rhabdomyosarcoma (marks as dendritic cell tumor)  
Long Beach - Malignant fibrous histiocytoma (5)  
Monterey (Community Hospital of Monterey Peninsula) - Malignant fibrous histiocytoma  
Monterey Park (Garfield Medical Center) - Malignant fibrous histiocytoma (pleomorphic)  
Oakland (Kaiser Permanente) - High grade sarcoma consistent with malignant fibrous histiocytoma  
Orange (UCI Medical Center Residents) - Malignant fibrous histiocytoma  
Riverside/Moreno Valley - Pleomorphic malignant fibrous histiocytoma vs. malignant peripheral nerve sheath tumor (1); Malignant fibrous histiocytoma (1)  
Sacramento (UCDMC) - Myxoid malignant fibrous histiocytoma  
San Diego (Naval Medical Center) - Pleomorphic malignant fibrous histiocytoma (1); Pleomorphic liposarcoma (1)  
Santa Barbara (Cottage Hospital) - High grade sarcoma, possible malignant peripheral nerve sheath tumor (1)  
Santa Clara - Pleomorphic liposarcoma  
Santa Rosa - Malignant fibrous histiocytoma, myxoid type (3)

Ventura (Unilab) - Malignant fibrous histiocytoma (3)

Alabama (BMC Princeton) - Malignant fibrous histiocytoma

Alaska, Anchorage - Pleomorphic malignant fibrous histiocytoma

Colorado (Lutheran Medical Center) - Malignant fibrous histiocytoma

Florida (Baptist Medical Center) - High grade sarcoma (favor malignant fibrous histiocytoma) (1); Malignant fibrous histiocytoma (pleomorphic) (1); Malignant peripheral nerve sheath tumor with epithelioid features (1); Malignant fibrous histiocytoma (1)

Florida (Munroe Regional Medical Center) - Malignant fibrous histiocytoma

Florida (Winter Haven Hospital) - Liposarcoma

Illinois, Chicago - Malignant fibrous histiocytoma

Illinois (Evanston Hospital) - Pleomorphic malignant fibrous histiocytoma

Indiana (Fort Wayne) - Pleomorphic sarcoma (malignant fibrous histiocytoma), abdominal wall

Louisiana (Louisiana State University Medical Center) - Malignant fibrous histiocytoma

Maryland, Bethesda - Malignant fibrous histiocytoma (8)

Maryland (Johns Hopkins Hospital Residents) - Malignant fibrous histiocytoma, likely myxoid subtype (1); Malignant fibrous histiocytoma (1)

Maryland (NIH Pathology Residents) - Malignant fibrous histiocytoma

Massachusetts (Berkshire Medical Center) - Malignant fibrous histiocytoma

Massachusetts (New England Medical Center) - Pleomorphic sarcoma. DDx: Malignant peripheral nerve sheath tumor or pleomorphic leiomyosarcoma

Michigan (Oakwood Hospital) - High grade pleomorphic sarcoma

Michigan (St. Joseph Mercy Hospital) - High grade sarcoma, favor malignant fibrous histiocytoma

Missouri (TMC, Kansas City) - Malignant fibrous histiocytoma

Nebraska (Creighton Pathology Residents) - Myxoid malignant fibrous histiocytoma

New Jersey (Overlook Hospital) - Dedifferentiated liposarcoma (3)

New York (Long Island Jewish Medical Center) - Malignant fibrous histiocytoma

New York (Northport VA Medical Center) - Malignant fibrous histiocytoma

New York (Stony Brook University Hospital Residents) - Malignant fibrous histiocytoma

Pennsylvania (Allegheny General Hospital) - High grade sarcoma, malignant fibrous histiocytoma type

Pennsylvania (Lehigh Valley Hospital) - Neurogenic sarcoma

Pennsylvania (Memorial Medical Center Residents) - Malignant fibrous histiocytoma, pleomorphic

Puerto Rico (University of Puerto Rico) - Malignant fibrous histiocytoma

Texas, Lubbock - Neurofibrosarcoma

Texas (Propath Services) - Malignant fibrous histiocytoma (1); Malignant fibrous histiocytoma (myxoid variant) (1)

Texas, San Antonio - Malignant fibrous histiocytoma

Texas (Scott & White Memorial Hospital) - Malignant fibrous histiocytoma

West Virginia (Greenbrier Valley Medical Center) - Pleomorphic malignant fibrohistiocytoma

Wisconsin (Meriter Hospital) - Pleomorphic sarcoma, grade 3 (3)

Wisconsin, Milwaukee - Malignant fibrous histiocytoma

Australia (North Queensland Pathology Group) - Pleomorphic malignant fibrohistiocytoma

Canada (Foothills Medical Center) - Pleomorphic malignant fibrous histiocytoma

Japan (Yamanashi Medical University) - Clear cell sarcoma ? (1); Malignant fibrous histiocytoma (1)

Netherlands, Amsterdam - Sarcoma, NOS (malignant fibrous histiocytoma?)

Saudi Arabia (King Khalid University Hospital Study Group) - Epithelioid malignant peripheral nerve sheath tumour (4); Malignant and pleomorphic fibrous histiocytoma (2)

#### **Case 6 - Diagnosis:**

Pleomorphic high grade sarcoma (with phenotype of so-called MFH), abdominal wall  
 Director's Note: Some slides showed vacuolated elements suggestive of lipoblasts. (drc)  
 T-Y4100, M-88023

#### **Case 6 - References:**

Fletcher CD. Pleomorphic Malignant Fibrous Histiocytoma. Fact or Fiction? A Critical Reappraisal Based on 159 Tumors Diagnosed as Pleomorphic Sarcoma. *Am J Surg Pathol* 1992; 16(3):213-228.

Schurich W, Begin LR, Seemayer TA, et al. Pleomorphic Soft Tissue Myogenic Sarcomas of Adulthood. A Reappraisal in the Mid-1990s. *Am J Surg Pathol* 1996; 20(2):131-147.

- Wesche WA, Fletcher CD, Dias P, et al. Immunohistochemistry of MyoD1 in Adult Pleomorphic Soft Tissue Sarcomas. *Am J Surg Pathol* 1995; 19(3):261-269.
- Costa MJ. Malignant Fibrous Histiocytoma Phenotype in Pleomorphic Sarcoma Differentiation in Recurrent Disease. *Arch Pathol Lab Med* 1994; 118(2):160-164.
- McCormick D, Mentzel T, Beham A, et al. Dedifferentiated Liposarcoma. Clinicopathologic Analysis of 32 Cases Suggesting a Better Prognostic Subgroup Among Pleomorphic Sarcomas. *Am J Surg Pathol* 1995; 19(10):1216-1217.

**Case No. 7, Accession No. 29118**

**May 2002**

- Bay Area - Synovial sarcoma (3)
- Fontana (Kaiser Permanente) - Synovial sarcoma
- Fresno (St. Agnes) - Synovial sarcoma (monophasic)
- Hayward (St. Rose Hospital) - Irradiated epithelioid sarcoma
- Long Beach - Synovial sarcoma (5)
- Monterey (Community Hospital of Monterey Peninsula) - Synovial sarcoma
- Monterey Park (Garfield Medical Center) - Fibrosarcoma with heterologous components
- Oakland (Kaiser Permanente) - Synovial sarcoma
- Orange (UCI Medical Center Residents) - Synovial sarcoma
- Riverside/Moreno Valley - Synovial sarcoma (1); Synovial sarcoma, monophasic (1)
- Sacramento (UCDMC) - Synovial sarcoma
- San Diego (Naval Medical Center) - Synovial sarcoma (2)
- Santa Barbara (Cottage Hospital) - Monophasic synovial sarcoma
- Santa Clara - Synovial sarcoma
- Santa Rosa - Monophasic fibrous synovial sarcoma (3)
- Ventura (Unilab) - Malignant peripheral nerve sheath tumor (1); Ewing's sarcoma (PNET) (1)
- Alabama (BMC Princeton) - Monophasic synovial sarcoma
- Alaska, Anchorage - Synovial sarcoma
- Colorado (Lutheran Medical Center) - ? epithelioid sarcoma
- Florida (Baptist Medical Center) - Synovial cell sarcomas vs. nerve sheath tumor (1); Synovial sarcoma (monophasic) (1); Synovial sarcoma (2);
- Florida (Munroe Regional Medical Center) - Synovial sarcoma
- Florida (Winter Haven Hospital) - Low grade fibromyxoid sarcoma
- Illinois, Chicago - Synovial sarcoma
- Illinois (Evanston Hospital) - Synovial sarcoma
- Indiana (Fort Wayne) - Monophasic fibrous synovial sarcoma, left anterior hip
- Louisiana (Louisiana State University Medical Center) - Favor synovial sarcoma
- Maryland, Bethesda - Synovial sarcoma (8)
- Maryland (Johns Hopkins Hospital Residents) - Synovial sarcoma with treatment effect (1); Synovial sarcoma (1)
- Maryland (NIH Pathology Residents) - Synovial sarcoma, monophasic
- Massachusetts (Berkshire Medical Center) - Synovial sarcoma
- Massachusetts (New England Medical Center) - Synovial sarcoma, biphasic
- Michigan (Oakwood Hospital) - Synovial sarcoma
- Michigan (St. Joseph Mercy Hospital) - Synovial sarcoma
- Missouri (TMC, Kansas City) - Extraskelatal myxoid chondrosarcoma
- Nebraska (Creighton Pathology Residents) - Synovial sarcoma, monophasic
- New Jersey (Overlook Hospital) - Synovial sarcoma (3)
- New York (Long Island Jewish Medical Center) - Synovial sarcoma, monophasic type
- New York (Northport VA Medical Center) - Monophasic synovial sarcoma
- New York (Stony Brook University Hospital Residents) - Synovial sarcoma, monophasic
- Pennsylvania (Allegheny General Hospital) - Synovial sarcoma
- Pennsylvania (Lehigh Valley Hospital) - Neurogenic sarcoma
- Pennsylvania (Memorial Medical Center Residents) - Monophasic synovial
- Puerto Rico (University of Puerto Rico) - Monophasic synovial sarcoma

Texas, Lubbock - Synoviosarcoma  
Texas (ProPath Services) - Synovial cell sarcoma (2)  
Texas, San Antonio - Extraskkeletal Ewing's sarcoma  
Texas (Scott & White Memorial Hospital) - Monophasic synovial sarcoma  
West Virginia (Greenbrier Valley Medical Center) - Synovial sarcoma  
Wisconsin (Meriter Hospital) - Monophasic (spindle cell) synovial sarcoma  
Wisconsin, Milwaukee - Synovial sarcoma  
Australia (North Queensland Pathology Group) - Extraskkeletal osteosarcoma. DDX: Synovial sarcoma  
Canada (Foothills Medical Center) - Synovial sarcoma  
Japan (Yamanashi Medical University) - Synovial sarcoma (2)  
Netherlands, Amsterdam - Synovial sarcoma  
Saudi Arabia (King Khalid University Hospital Study Group) - Monophasic synovial sarcoma

#### **Case 7 - Diagnosis:**

Calcifying monophasic synovial sarcoma, hip  
 T-Y1500, M-90403

#### **Case 7 - References:**

Sanchez RJM, Alcaraz MM, Quinones TD, et al. Extensively Calcified Synovial Sarcoma. *Skeletal Radiol* 1997; 26(11):671-673.  
 Blacksins MF, Siegel JR, Benevenia J, et al. Synovial Sarcoma. Frequency of Nonaggressive MR Characteristics. *J Comput Assist Tomogr* 1997; 21(5):785-789.  
 Blacksins M, Adesokan A and Benevenia J. Case Report 871. Synovial Sarcoma, Monophasic Type. *Skeletal Radiol* 1994; 23(7):589-591.  
 Clark J Rocques PJ, Crew AJ, et al. Identification of Novel Genes, SYT and SSX, Involved in the t(x;18)(p11.2;q11.2) Translocation Found in Human Synovial Sarcoma. *Genet* 1994; 7(4):502-508.  
 Renwick PJ, Reeves BR, Dal Cin P, et al. Two Categories of Synovial Sarcoma Defined by Divergent Chromosome Translocation Breakpoints in Xp11.2 with Implications for the Histologic Subclassification of Synovial Sarcoma. *Cytogenet Cell Genet* 1995; 70(1-2):58-63.  
 Ishida T, Lijima T, Moriyama S, et al. Intra-Articular Calcifying Synovial Sarcoma Mimicking Synovial Chondromatosis. *Skeletal Radiol* 1996; 25(8):766-769.  
 Milchgrub S, Ghandur-Mnaimneh L, Dorfman HD, et al. Synovial Sarcoma with Extensive Osteoid and Bone Formation. *Am J Surg Pathol* 1993; 17(4):357-363.

#### **Case No. 8, Accession No. 29073**

**May 2002**

Bay Area - Leiomyoma (3)  
Fontana (Kaiser Permanente) - Leiomyosarcoma  
Fresno (St. Agnes) - Leiomyoma (? parasitic vs. benign metastasizing)  
Hayward (St. Rose Hospital) - Neurofibroma  
Long Beach - Leiomyoma (3); Leiomyosarcoma (2)  
Monterey (Community Hospital of Monterey Peninsula) - Leiomyoma  
Monterey Park (Garfield Medical Center) - Leiomyosarcoma vs. fibrosarcoma  
Oakland (Kaiser Permanente) - Leiomyosarcoma  
Orange (UCI Medical Center Residents) - Leiomyoma  
Riverside/Moreno Valley - Leiomyoma (smooth muscle tumor of uncertain malignant potential) (1); Smooth muscle tumor of uncertain malignant potential (1)  
Sacramento (UCDMC) - Leiomyoma  
San Diego (Naval Medical Center) - Smooth muscle tumor of uncertain malignant potential (1); Fibromatosis (1)  
Santa Barbara (Cottage Hospital) - Leiomyoma of uncertain malignant potential  
Santa Clara - Leiomyoma  
Santa Rosa - Retroperitoneal leiomyoma (3)  
Ventura (Unilab) - Leiomyoma (3)  
Alabama (BMC Princeton) - Leiomyoma  
Alaska, Anchorage - Retroperitoneal smooth muscle tumor, undetermined malignant potential

Colorado (Lutheran Medical Center) - Low grade leiomyosarcoma vs. leiomyoma

Florida (Baptist Medical Center) - Leiomyoma vs. leiomyosarcoma (did not see any mitoses) (1); Leiomyosarcoma (1); Leiomyosarcoma of soft tissue, low grade (1); Leiomyoma (1)

Florida (Munroe Regional Medical Center) - Gastrointestinal stromal tumor

Florida (Winter Haven Hospital) - Leiomyoma

Illinois, Chicago - Leiomyoma

Illinois (Evanston Hospital) - Leiomyoma vs. smooth muscle tumor of uncertain malignant potential

Indiana (Fort Wayne) - Retroperitoneal leiomyoma

Louisiana (Louisiana State University Medical Center) - Cellular leiomyoma

Maryland, Bethesda - Leiomyoma (2); Fibromatosis (5); GI stromal tumor (1)

Maryland (Johns Hopkins Hospital Residents) - Leiomyoma (1); Vascular leiomyoma (1)

Maryland (NIH Pathology Residents) - Cellular leiomyoma

Massachusetts (Berkshire Medical Center) - Leiomyosarcoma, low grade

Massachusetts (New England Medical Center) - Cellular leiomyoma

Michigan (Oakwood Hospital) - Leiomyoma

Michigan (St. Joseph Mercy Hospital) - Leiomyoma

Missouri (TMC, Kansas City) - Leiomyoma

Nebraska (Creighton Pathology Residents) - Smooth muscle tumor with uncertain malignant potential

New Jersey (Overlook Hospital) - Leiomyoma (3)

New York (Long Island Jewish Medical Center) - Leiomyoma

New York (Northport VA Medical Center) - Leiomyoma

New York (Stony Brook University Hospital Residents) - Parasitic leiomyoma

Pennsylvania (Allegheny General Hospital) - Smooth muscle tumor of uncertain malignant potential

Pennsylvania (Lehigh Valley Hospital) - Leiomyosarcoma

Pennsylvania (Memorial Medical Center Residents) - Epithelioid leiomyoma

Puerto Rico (University of Puerto Rico) - Leiomyoma

Texas, Lubbock - Leiomyoma

Texas (ProPath Services) - Leiomyoma (1); Leiomyoma of deep soft tissue (1)

Texas, San Antonio - Retroperitoneal leiomyoma

Texas (Scott & White Memorial Hospital) - Solitary fibrous tumor

West Virginia (Greenbrier Valley Medical Center) - Leiomyoma

Wisconsin (Meriter Hospital) - GIST vs. leiomyoma

Wisconsin, Milwaukee - Leiomyoma

Australia (North Queensland Pathology Group) - Leiomyoma

Canada (Foothills Medical Center) - Leiomyoma of deep soft tissue

Japan (Yamanashi Medical University) - Leiomyosarcoma, low grade (1); Leiomyoma (1); Synovial sarcoma (1)

Netherlands, Amsterdam - Benign leiomyoma

Saudi Arabia (King Khalid University Hospital Study Group) - Leiomyoma

### **Case 8 - Diagnosis:**

Smooth muscle neoplasm of uncertain malignant potential, retroperitoneum

Director's Note: Although histologically benign, smooth muscle tumors of the retroperitoneum are not to be trusted. (drc)

T-Y4600, M-88900

### **Case 8 - References:**

- Ranchod M and Kempson RL. Smooth Muscle Tumors of the Gastrointestinal Tract and Retroperitoneum. A Pathologic Analysis of 100 Cases. *Cancer* 1977; 39(1):255-262.
- Kilpatrick SE, Mentzel T, and Fletcher CDM. Leiomyoma of Deep Soft Tissue. Clinicopathologic Analysis of a Series. *Am J Surg Pathol* 1994; 18(6):576-582.
- Watanabe K, Kusakabe T, Hoshi N, et al. h-Caldesmon in Leiomyosarcoma and Tumors of Smooth Muscle Cell-Like Differentiation. Its Specific Expression in Smooth Muscle Cell Tumor. *Hum Pathol* 1999; 30(4):392-396.

Bay Area - Leiomyosarcoma (consider myosarcoma/rhabdomyosarcoma) (3)  
Fontana (Kaiser Permanente) - Rhabdomyosarcoma  
Fresno (St. Agnes) - Rhabdomyosarcoma  
Hayward (St. Rose Hospital) - Leiomyosarcoma  
Long Beach - Leiomyosarcoma (5)  
Monterey (Community Hospital of Monterey Peninsula) - Leiomyosarcoma (3); vs. spindle cell rhabdomyosarcoma (1)  
Monterey Park (Garfield Medical Center) - High grade sarcoma  
Oakland (Kaiser Permanente) - Leiomyosarcoma  
Orange (UCI Medical Center Residents) - Rhabdomyosarcoma  
Riverside/Moreno Valley - Spindle cell type of embryonal rhabdomyosarcoma (1); Embryonal rhabdomyosarcoma (1)  
Sacramento (UCDMC) - Leiomyosarcoma  
San Diego (Naval Medical Center) - Rhabdomyosarcoma, spindle cell type (1); Leiomyosarcoma (1)  
Santa Barbara (Cottage Hospital) - Embryonal rhabdomyosarcoma, spindle cell type  
Santa Clara - Myosarcoma  
Santa Rosa - Leiomyosarcoma vs. myofibroblastic sarcoma (3)  
Ventura (Unilab) - Leiomyosarcoma (2); Infantile fibrosarcoma (1)  
Alabama (BMC Princeton) - Leiomyosarcoma  
Alaska, Anchorage - Embryonal rhabdomyosarcoma (spindled type vs. botyroid type)  
Colorado (Lutheran Medical Center) - Recurrent/metastatic botyroid (embryonal) rhabdomyosarcoma  
Florida (Baptist Medical Center) - High grade sarcoma (favor leiomyosarcoma) ? muscle specific actin done (1); Fibrosarcoma (1); Spindle cell type of an embryonal rhabdomyosarcoma (1); Rhabdomyosarcoma (1)  
Florida (Munroe Regional Medical Center) - Rhabdomyosarcoma  
Florida (Winter Haven Hospital) - Malignant schwannoma  
Illinois, Chicago - Post operative spindle cell nodule  
Illinois (Evanston Hospital) - Spindle cell rhabdomyosarcoma  
Indiana (Fort Wayne) - Recurrent leiomyosarcoma, abdominal wall (origin in urinary bladder)  
Louisiana (Louisiana State University Medical Center) - Rhabdomyosarcoma  
Maryland, Bethesda - High grade sarcoma (7); Post operative spindle cell nodule (1)  
Maryland (Johns Hopkins Hospital Residents) - Favor leiomyosarcoma (1); Favor rhabdomyosarcoma (1)  
Maryland (NIH Pathology Residents) - Embryonal rhabdomyosarcoma, myxoid  
Massachusetts (Berkshire Medical Center) - Embryonal rhabdomyosarcoma  
Massachusetts (New England Medical Center) - Leiomyosarcoma  
Michigan (Oakwood Hospital) - Rhabdomyosarcoma, spindle cell embryonal variant  
Michigan (St. Joseph Mercy Hospital) - Embryonal rhabdomyosarcoma  
Missouri (TMC, Kansas City) - Fibromatosis  
Nebraska (Creighton Pathology Residents) - Embryonal rhabdomyosarcoma  
New Jersey (Overlook Hospital) - Leiomyosarcoma (3)  
New York (Long Island Jewish Medical Center) - Rhabdomyosarcoma, embryonal type  
New York (Northport VA Medical Center) - Leiomyosarcoma  
New York (Stony Brook University Hospital Residents) - Postoperative spindle-cell nodule  
Pennsylvania (Allegheny General Hospital) - Spindle cell sarcoma favor rhabdomyosarcoma  
Pennsylvania (Lhigh Valley Hospital) - Embryonal rhabdomyosarcoma  
Pennsylvania (Memorial Medical Center Residents) - Rhabdomyosarcoma  
Puerto Rico (University of Puerto Rico) - Fibrosarcoma  
Texas, Lubbock - Leiomyosarcoma  
Texas (Propath Services) - Metastatic botyroid rhabdomyosarcoma (1); Fibrosarcoma (1)  
Texas, San Antonio - Embryonal rhabdomyosarcoma, spindle cell type  
Texas (Scott & White Memorial Hospital) - Recurrent rhabdomyosarcoma  
West Virginia (Greenbrier Valley Medical Center) - Fibromatosis  
Wisconsin (Meriter Hospital) - Leiomyosarcoma  
Wisconsin, Milwaukee - Rhabdomyosarcoma

Australia (North Queensland Pathology Group) - Leiomyosarcoma  
Canada (Foothills Medical Center) - Leiomyosarcoma  
Japan (Yamanashi Medical University) - Leiomyosarcoma, high grade (2); Spindle cell rhabdomyosarcoma (1)  
Netherlands, Amsterdam - Leiomyosarcoma, recurrence  
Saudi Arabia (King Khalid University Hospital Study Group) - Leiomyosarcoma

**Case 9 - Diagnosis:**

Embryonal rhabdomyosarcoma, spindle cell type, abdominal wall  
T-Y4100, M-89103

**Case 9 - References:**

Edel G, Wuisman P and Eriemann R. Spindle Cell (Leiomyomatous) Rhabdomyosarcoma, A Rare Variant of Embryonal Rhabdomyosarcoma. *Pathol Res Pract* 1993; 189(1):107-110  
Cavazzana AO, Schmidt D, Ninfo V, et al. Spindle Cell Rhabdomyosarcoma. A Prognostically Favorable Variant of Rhabdomyosarcoma. *Am J Surg Pathol* 1992; 16(3):229-235.  
Spindle Cell Rhabdomyosarcoma. Histologic Variant of Embryonal Rhabdomyosarcoma with Association to Favorable Prognosis. *Curr Top Pathol* 1995; 89:261-272.  
Scrabble H, Witte D, Shimada H, et al. Molecular Differential Pathology of Rhabdomyosarcoma. *Genes Chrom Cancer* 1989; 1(1):23-35.  
Cui S, Hano H, Harada T, Takai S, et al. Evaluation of New Monoclonal Anti-Myo D1 and Anti-Myogenin Antibodies for the Diagnosis of Rhabdomyosarcoma. *Pathol Int* 1999; 29:62-68.

**Case No. 10, Accession No. 29193**

**May 2002**

Bay Area - Dermatofibrosarcoma protuberans (DFSP) (2); Angiosarcoma (1)  
Fontana (Kaiser Permanente) - Neurofibroma  
Fresno (St. Agnes) - Myofibroblastoma  
Hayward (St. Rose Hospital) - Solitary fibrous tumor  
Long Beach - Solitary fibrous tumors (5)  
Monterey (Community Hospital of Monterey Peninsula) - Angiosarcoma vs. infantile hemangiopericytoma (1)  
Monterey Park (Garfield Medical Center) - Solitary fibrous tumor  
Oakland (Kaiser Permanente) - Giant cell fibroblastoma  
Orange (UCI Medical Center Residents) - Infantile myofibromatosis  
Riverside/Moreno Valley - Solitary fibrous tumor (2)  
Sacramento (UCDMC) - Solitary fibrous tumor/hemangiopericytoma  
San Diego (Naval Medical Center) - Dermatofibrosarcoma protuberans (2); Inflammatory myofibroblastic tumor (4); Spindle cell lipoma (3);  
Santa Barbara (Cottage Hospital) - Benign soft tissue tumor consistent with myofibroblastoma  
Santa Clara - Dermatofibrosarcoma protuberans  
Santa Rosa - Infantile fibromatosis (3)  
Ventura (Unilab) - Spindle cell hemangioma (3)  
Alabama (BMC Princeton) - Solitary fibrous tumor  
Alabama (BMC Princeton) - Solitary fibrous tumor  
Alaska, Anchorage - Dermatofibrosarcoma protuberans  
Colorado (Lutheran Medical Center) - ? giant cell fibroblastoma  
Florida (Baptist Medical Center) - Epithelioid smooth muscle tumor (favor benign) (1); Hemangiopericytoma (1); Myxoid fetal rhabdomyoma (1); Myofibroblastoma/juvenile fibromatosis (1)  
Florida (Munroe Regional Medical Center) - Infantile fibromatosis  
Florida (Winter Haven Hospital) - Neurofibrosarcoma  
Illinois, Chicago - Giant cell fibroblastoma  
Illinois (Evanston Hospital) - Dermatofibrosarcoma protuberans  
Indiana (Fort Wayne) - Hemangiopericytoma/solitary fibrous tumor  
Louisiana (Louisiana State University Medical Center) - Fibrohistiocytic tumor  
Maryland, Bethesda - Hemangiopericytoma (8)

Maryland (Johns Hopkins Hospital Residents) - Dermatofibrosarcoma protuberans/giant cell fibroblastoma vs. infantile hemangiopericytoma (1); Infantile myofibroblastoma (1)

Maryland (NIH Pathology Residents) - Dermatofibrosarcoma protuberans

Massachusetts (Berkshire Medical Center) - Infantile hemangiopericytoma

Massachusetts (New England Medical Center) - Dermatofibrosarcoma protuberans. DDX: Nodular fasciitis

Michigan (Oakwood Hospital) - Giant cell fibroblastoma

Michigan (St. Joseph Mercy Hospital) - Solitary fibrous tumor (1); Myxoid dermatofibrosarcoma protuberans (1); Giant cell fibroblastoma (1)

Missouri (TMC, Kansas City) - Dermatofibrosarcoma protuberans

Nebraska (Creighton Pathology Residents) - Hemangioepithelioma

New Jersey (Overlook Hospital) - Kaposiform hemangioendothelioma (3)

New York (Long Island Jewish Medical Center) - Solitary fibrous tumor

New York (Northport VA Medical Center) - Giant cell fibroblastoma

New York (Stony Brook University Hospital Residents) - Dermatofibrosarcoma protuberans

Pennsylvania (Allegheny General Hospital) - Solitary fibrous tumor

Pennsylvania (Lehigh Valley Hospital) - Infantile myofibromatosis

Pennsylvania (Memorial Medical Center Residents) - Dermatofibrosarcoma protuberans

Puerto Rico (University of Puerto Rico) - Fibromatosis

Texas, Lubbock - Dermatofibrosarcoma protuberans

Texas (ProPath Services) - Infantile fibromatosis (2)

Texas, San Antonio - Benign fibrous histiocytoma

Texas (Scott & White Memorial Hospital) - Infantile hemangiopericytoma

West Virginia (Greenbrier Valley Medical Center) - Myofibroma

Wisconsin (Meriter Hospital) - Dermatofibrosarcoma protuberans, rule out infantile hemangiopericytoma

Wisconsin, Milwaukee - Giant cell fibroblastoma

Australia (North Queensland Pathology Group) - Solitary fibrous tumour

Canada (Foothills Medical Center) - Dermatofibrosarcoma protuberans

Japan (Yamanashi Medical University) - Liposarcoma, dedifferentiated (1); Solitary fibrous tumor (1); Nodular fasciitis (1)

Netherlands, Amsterdam - Dermatofibrosarcoma protuberans

Saudi Arabia (King Khalid University Hospital Study Group) - Infantile fibromatosis

#### **Case 10 - Diagnosis:**

Dermatofibrosarcoma protuberans (DFSP), leg  
T-Y9400, M-91501

#### **Case 10 - References:**

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