

California Tumor Tissue Registry's  
Subscription "C" – Vol. 5(2)  
October, 2011

*"Bone and Cartilage"*

**Case 1:**

A 15 y/o young man sought removal of a progressively enlarging "upper" right distal femoral mass which had been present for many years. The excised specimen was a mushroom-shaped growth measuring 5.5 x 5.0 x 4.6 cm. It was lined by a gray-white, partially semi-translucent, irregularly-shaped cartilaginous cap which overlay a spiculated, portion of unremarkable bone.

**Dx:**

Osteochondroma, femur

Santa Barbara (Miramonte Laboratory) - Osteochondroma  
Santa Rosa (Santa Rosa Memorial Hospital) - Osteochondroma (3)  
Woodland Hills (Southern California Permanente) - Osteochondroma  
Alabama, Birmingham - Osteochondroma  
Alabama (Norwood Clinic) - Osteochondroma  
Arkansas (The Lab of Pathol. P.A.) - Osteochondroma  
Georgia, Atlanta - Osteochondroma  
Idaho, Boise - Osteochondroma  
Illinois, Oak Brook - Osteochondroma  
Kansas (Coffeyville Regional Medical Center) - Osteochondroma  
Kansas (Peterson Laboratory Services) - Osteochondroma (2)  
Maryland, Baltimore - Osteochondroma  
Michigan (Oakwood Hospital) - Osteochondroma  
New Mexico, Albuquerque - Osteochondroma  
New York (Rye Brook) - Osteochondroma  
Ohio, Columbus - Bone, right distal femur, osteochondroma  
Pennsylvania (Conemaugh Memorial Medical Center) - Low grade chondrosarcoma  
Texas, Victoria - Osteochondroma  
Canada (Pasqua Hospital) - Osteochondroma  
Hong Kong (Hong Kong Baptist Hospital) - Osteochondroma  
India, Kochi - Osteochondroma of femur  
The Netherlands, Amstelveen - Osteochondroma

**Refs:**

Solitary osteochondroma long-term follow-up.  
J Pediatr Orthop B 2008 Mar;17(2): p91-4  
Florez B; Monckeberg J; Castillo G; Beguiristain J

Endoscopic resection of symptomatic osteochondroma of the distal femur.

Clin Orthop Relat Res 2007 Jun;459:150-3  
Ayerza MA; Abalo E; Aponte-Tinao L; Muscolo DL

Lower limb ischaemia caused by fractured osteochondroma of the femur.

Br J Radiol 2007 Apr;80(952): pe78-80

Tanigawa N; Kariya S; Kojima H; Komemushi A; Fujii H; Sawada S

Intrabursal vein abrasion and thrombosis. An unusual complication of femoral osteochondroma.

Saudi Med J 2009 Dec;30(12): p1604-6

Mahmoodi SM; Bahirwani RK; Abdull-Gaffar BA; Habib IF

Osteochondroma-like parosteal osteosarcoma.

Indian J Pathol Microbiol 2008 Jan-Mar;51(1): p58-60

Krishna Swaroop DS; Bai SJ; Shanthi V; Ramakrishna BA

Radiology-pathology conference: osteosarcoma in a cartilaginous exostosis of the femur.

Clin Imaging 2006 May-Jun;30(3): p206-9

Meissner SA; Vieth V; August C; Winkelmann W

## **Case 2**

A 36 y/o man presented with a painful right hand. X-rays showed a lytic lesion in the cuboid bone.

### **Dx:**

Aneurysmal bone cyst, cuboid bone

Santa Barbara (Miranmonte Laboratory) - Giant cell tumor

Santa Rosa (Santa Rosa Memorial Hospital) - Enchondroma (2); Osteoblastoma vs. aneurysmal bone cyst (1)

Woodland Hills (Southern California Permanente) - Aneurysmal bone cyst

Alabama, Birmingham - Aneurysmal bone cyst

Alabama (Norwood Clinic) - Giant cell tumor

Arkansas (The Lab of Pathol, P.A.) - Aneurysmal bone cyst

Georgia, Atlanta - Chondroblastoma

Idaho, Boise - Aneurysmal bone cyst

Illinois, Oak Brook - Giant cell tumor

Kansas (Coffeyville Regional Medical Center) - Fibromyxoma

Kansas (Peterson Laboratory Services) - Aneurysmal bone cyst (2)

Maryland, Baltimore - Aneurysmal bone cyst, possible co-existent giant cell tumor

Michigan (Oakwood Hospital) - Giant cell reparative granuloma

New Mexico, Albuquerque - Chondroblastoma

New York (Rye Brook) - Chondroblastoma

Ohio, Columbus - Bone, right cuboid, aneurysmal lesion, giant cell proliferation

Pennsylvania (Conemaugh Memorial Medical Center) - Aneurysmal bone cyst

Texas, Victoria - Osteoblastoma with secondary ABC

Canada (Pasqua Hospital) - Chondromyxoid fibroma

Hong Kong (Hong Kong Baptist Hospital) - Chondroblastoma

India, Kochi - Aneurysmal bone cyst of cuboid bone

The Netherlands, Amstelveen - Aneurysmal bone cyst

### **Refs:**

Aneurysmal bone cyst of the hand: a report of four cases.

Hand Surg 2006;11(1-2): p35-41

Basarir K; Saglik Y; Yildiz Y; Tezen E

[Aneurysmal bone cysts of the metacarpals and phalanges of the hand.  
A 6 case series and literature review]  
Chir Main 2007 Aug-Oct;26(4-5): p214-7  
Ropars M; Kaila R; Briggs T; Cannon S

Total destruction of the fourth metacarpal bone by aneurysmal bone  
cyst: reconstruction with strut fibular graft--a case report.  
Hand Surg 2005;10(2-3): p265-9  
Gundes H; Tosun B; Muezzinoglu B; Tosun A

Aneurysmal bone cyst of the capitate: case report and a review  
emphasizing local recurrence.  
Fukuoka Igaku Zasshi 2006 Oct;97(10): p302-7  
Sakamoto A; Tanaka K; Matsuda S; Oda Y; Tsuneyoshi M; Iwamoto Y

Aneurysmal bone cyst: a review of 150 patients.  
J Clin Oncol 2005 Sep 20;23(27): p6756-62  
Mankin HJ; Hornicek FJ; Ortiz-Cruz E; Villafuerte J; Gebhardt MC

Aneurysmal bone cyst: a neoplasm driven by upregulation of the USP6  
oncogene.  
J Clin Oncol 2006 Jan 1;24(1): p e1; author reply e2  
Oliveira AM; Chou MM; Perez-Atayde AR; Rosenberg AE

Osteosarcoma at the site of a previously treated aneurysmal bone  
cyst. A case report.  
J Bone Joint Surg Am 2005 Feb;87(2): p395-8  
Hsu CC; Wang JW; Huang CH; Chen WJ

### **Case 3**

An 18 y/o man presented with a 2 year history of pain in his hip. It had abruptly worsened within the last three weeks. The x-rays were interpreted as a multi-nodular lytic lesion involving the femoral neck, with pathologic fracture (.jpg x-ray included).

#### **Dx:**

Fibrocartilaginous dysplasia, femur

Santa Barbara (Miramonte Laboratory) - Fibrous dysplasia

Santa Rosa (Santa Rosa Memorial Hospital) - Chondrosarcoma (2); Fibrous dysplasia with cartilaginous differentiation (1)

Woodland Hills (Southern California Permanente) - Fibrous dysplasia

Alabama, Birmingham - Fibrous dysplasia

Alabama (Norwood Clinic) - Fibrous metaplasia

Arkansas (The Lab of Pathol. P.A.) - Fibrocartilaginous dysplasia

Georgia, Atlanta - Ossifying fibroma

Idaho, Boise - Fibrocartilaginous dysplasia

Illinois, Oak Brook - Fibrous dysplasia

Kansas (Coffeyville Regional Medical Center) - Aneurysmal bone cyst

Kansas (Peterson Laboratory Services) - Fibrous dysplasia (2)

Maryland, Baltimore - Desmoplastic fibroma vs. fibrous dysplasia

Michigan (Oakwood Hospital) - Fibrous dysplasia  
New Mexico, Albuquerque - Fibrous dysplasia  
New York (Rye Brook) - Fibrous dysplasia with islands of benign appearing cartilage  
Ohio, Columbus - Bone, femoral neck, benign cartilage, fibrous tissue  
Pennsylvania (Conemaugh Memorial Medical Center) - Chondromyxoid fibroma  
Texas, Victoria - Fibrocartilaginous dysplasia  
Canada (Pasqua Hospital) - Fibrous dysplasia  
Hong Kong (Hong Kong Baptist Hospital) - Fibrous dysplasia  
India, Kochi - Fibrocartilaginous dysplasia

#### **Refs:**

Focal fibrocartilaginous dysplasia of long bones: report of eight additional cases and literature review.

J Pediatr Orthop 2000 Jul-Aug;20(4): p421-7

Choi IH; Kim CJ; Cho TJ; Chung CY; Song KS; Hwang JK; Sohn YJ

A patient with focal fibrocartilaginous dysplasia in the distal femur and review of the literature.

Tohoku J Exp Med 2008 Aug;215(4): p307-12

Ando A; Hatori M; Hosaka M; Hagiwara Y; Kita A; Ochiai T; Itoi E

Fibrocartilaginous dysplasia (fibrous dysplasia with extensive cartilaginous differentiation).

Pathol Oncol Res 2006;12(2): p111-4

Vargas-Gonzalez R; Sanchez-Sosa S

Spontaneous resolution of angular deformity of the distal femur in focal fibrocartilaginous dysplasia: a case report.

J Pediatr Orthop B 2010 Mar;19(2): p161-3

Thabet AM; Belthur MV; Herzenberg JE

Genu valgum secondary to focal fibrocartilaginous dysplasia of the distal femur.

J Pediatr Orthop 2004 Jul-Aug;24(4): p408-13

Ruchelsman DE; Madan SS; Feldman DS

#### **Case 4**

A 35 y/o woman presented with pain in the left arm. A 2.0 cm lytic lesion was radiographically found in the distal left radius.

#### **Dx:**

Giant cell tumor, left radius bone

Santa Barbara (Miramonte Laboratory) - Giant cell tumor

Santa Rosa (Santa Rosa Memorial Hospital) - Giant cell tumor (3)

Woodland Hills (Southern California Permanente) - Giant cell tumor

Alabama, Birmingham - Giant cell tumor of bone

Alabama (Norwood Clinic) - Giant cell tumor

Arkansas (The Lab of Pathol, P.A.) - Giant cell tumor

Georgia, Atlanta - Giant cell tumor

Idaho, Boise - Giant cell tumor

Illinois, Oak Brook - Giant cell tumor

Kansas (Coffeyville Regional Medical Center) - Giant cell tumor of bone  
Kansas (Peterson Laboratory Services) - Giant cell tumor (2)  
Maryland, Baltimore - Giant cell tumor  
Michigan (Oakwood Hospital) - Giant cell tumor  
New Mexico, Albuquerque - Giant cell tumor  
New York (Rye Brook) - Giant cell tumor of bone  
Ohio, Columbus - Bone, left distal radius, giant cell tumor  
Pennsylvania (Conemaugh Memorial Medical Center) - Giant cell tumor  
Texas, Victoria - GCT  
Canada (Pasqua Hospital) - Giant cell tumor  
Hong Kong (Hong Kong Baptist Hospital) - Giant cell tumor  
India, Kochi - Giant cell tumor of radius  
The Netherlands, Amstelveen - Giant cell tumor

### **Refs:**

Aneurysmal bone cyst and giant cell tumor of bone of the hand and distal radius.  
Hand Clin 2004 Aug;20(3): p269-81, vi  
Athanasian EA

Recurrent primary giant cell tumour of the proximal radius with pulmonary metastases.  
Joint Bone Spine 2008 Dec;75(6): p740-1  
Ropars M; Siret P; Kaila R; Duval H; Dreano T

Tuberculosis of the distal end of the radius mimicking a giant-cell tumour.  
Med J Malaysia 2000 Sep;55 Suppl C:105-6  
Pan KL; Ibrahim S

Impact severity of local recurrence in giant cell tumor of bone.  
Clin Orthop Relat Res 2005 Sep;438:116-22  
McGough RL; Rutledge J; Lewis VO; Lin PP; Yasko AW

Histologically verified lung metastases in benign giant cell tumours - 14 cases from a single institution.  
Int Orthop 2006 Dec;30(6): p499-504  
Dominkus M; Ruggieri P; Bertoni F; Briccoli A; Picci P; Rocca M; Mercuri M

Giant cell tumor of bone.  
Am J Clin Oncol 2006 Feb;29(1): p96-9  
Mendenhall WM; Zlotecki RA; Scarborough MT; Gibbs CP; Mendenhall NP

### **Case 5** (as published at [www.cttr.org](http://www.cttr.org) as COTM, Vol 12(7), April 2010)

A 16 year-old boy presented to his orthodontist with a two-year history of left mandibular swelling. On radiology, there was a radiolucent lesion of the left body of mandible extending from teeth #18-22 (Figure 1). A 27.6 gram, 5.5 x 4.5 x 2.0 cm portion of the left mandible demonstrating a 4.2 x 2.2 cm cystic defect was removed (Figure 2). Within the cystic defect was a 5.0 x 3.0 x 1.5 cm aggregate of loosely adherent pink-brown soft-tissue fragments with focal areas of necrosis (see x-ray and gross photo).

**Dx:**

Gorlin Cyst, mandible

Santa Barbara (Miramonte Laboratory) - Ameloblastoma  
Santa Rosa (Santa Rosa Memorial Hospital) - Calcifying odontogenic cyst consistent with odontoma (3)  
Woodland Hills (Southern California Permanente) - Adamantinoma  
Alabama, Birmingham - Gorlin cyst  
Alabama (Norwood Clinic) - Ameloblastoma  
Arkansas (The Lab of Pathol, P.A.) - Ameloblastoma  
Georgia, Atlanta - Calcifying cystic odontogenic tumor  
Idaho, Boise - Calcifying odontogenic cyst  
Illinois, Oak Brook - Calcifying odontogenic cyst  
Kansas (Coffeyville Regional Medical Center) - Ameloblastic fibroma  
Kansas (Peterson Laboratory Services) - Calcifying odontogenic cyst (1); Odontogenic keratocyst (1)  
Maryland, Baltimore - Calcifying odontogenic cyst  
Michigan (Oakwood Hospital) - Calcifying odontogenic cyst  
New Mexico, Albuquerque - Ameloblastoma  
New York (Rye Brook) - Calcifying odontogenic cyst  
Ohio, Columbus - Bone, left mandibular body, ameloblastic elements, squamous epithelium, fibrous tissue  
Pennsylvania (Conemaugh Memorial Medical Center) - Ameloblastoma  
Texas, Victoria - Ameloblastic fibroma  
Canada (Pasqua Hospital) - Calcifying odontogenic cyst  
Hong Kong (Hong Kong Baptist Hospital) - Calcifying odontogenic tumor  
India, Kochi - Gorlin cyst of mandible  
The Netherlands, Amstelveen - Calcifying odontogenic cyst

**Refs:**

Calcifying odontogenic cyst - a possible analogue of the cutaneous calcifying epithelioma of Malherbe (an analysis of fifteen cases).  
Gorlin RJ, Pindborg JJ, Clausen FLP et al. Oral Surg, 15:1235-1240, 1962.

Syndromes of the Head & Neck, by Gorlin RJ and Pindborg, McGraw-Hill, New York, 1964.

The calcifying ghost cell odontogenic - or the calcifying odontogenic cyst. Fejerskov O, Krogh J. J Oral Pathol, :273-287, 1972.

Calcifying odontogenic cyst associated with odontoma: report of two cases. Keszler A, Gugliemontti NB. J Oral Surg, 30:893-897, 1972.

Calcifying odontogenic cyst. A review and analysis of seventy cases. Freedman PD, Lumerman H, Gee JK. Oral Surg, 40:93-106, 1975.

The keratinizing and calcifying odontogenic cyst (Gorlin cyst). Clark MJ, Alley RS, Steed DL, Tilson HB. J Am Dent Assoc. 100(4):563-564, 1980.

Calcifying odontogenic cyst: case report and review of literature. el-Beialy RR, el-Mofty S, Refai H. J. Oral Maxillofac Surg, 48(6) 637-40, 1990.

## **Case 6**

This 59 y/o male reported a 2 year history of a gradually enlarging mass in his left hand. The mass first started to grow after he had slammed his hand down on a hard surface. An MRI done 1 ½ years previously was interpreted as consistent with an intramuscular lipoma. A hand x-ray done shortly before resection showed a 3.5 cm mass with calcifications. At surgery, it was covered by a thin layer of hypothenar musculature and was well-defined.

### **Dx:**

Ossifying fibromyxoid tumor, hand

Santa Barbara (Miramonte Laboratory) - Periapical granuloma  
Santa Rosa (Santa Rosa Memorial Hospital) - Ossifying fibroma (3)  
Woodland Hills (Southern California Permanente) - Peripheral giant cell granuloma/Peripheral ossifying fibroma  
Alabama, Birmingham - Peripheral ossifying fibroma  
Alabama (Norwood Clinic) - Inflammatory pseudotumor  
Arkansas (The Lab of Pathol, P.A.) - Peripheral ossifying fibroma  
Georgia, Atlanta - Cementifying fibroma  
Idaho, Boise - Peripheral ossifying fibroma  
Illinois, Oak Brook - Ossifying fibroma  
Kansas (Coffeyville Regional Medical Center) - Inflammatory pseudotumor  
Kansas (Peterson Laboratory Services) - Ossifying fibroma (2)  
Maryland, Baltimore - Peripheral ossifying fibroma ("fibroid epulis")  
Michigan (Oakwood Hospital) - Fibrous dysplasia  
New Mexico, Albuquerque - Ossifying fibroma  
New York (Rye Brook) - Fibroepithelial lesion with osseous core  
Ohio, Columbus - Bone, right upper inner alveolus, no diagnosis submitted  
Pennsylvania (Conemaugh Memorial Medical Center) - Ossifying fibroma  
Texas, Victoria - Reparative granuloma  
Canada (Pasqua Hospital) - Osteoma  
Hong Kong (Hong Kong Baptist Hospital) - Cemento-osseous dysplasia  
India, Kochi - Peripheral ossifying fibroma of gingiva

### **Refs:**

Peripheral ossifying fibroma - a clinical evaluation of 134 pediatric cases.

Pediatr Dent 2001 May-Jun;23(3): p245-8

Cuisia ZE; Brannon RB

Long-term follow-up of peripheral ossifying fibroma: report of three cases.

Periodontal Clin Investig 2001;23(1): p11-4

Buduneli E; Buduneli N; Unal T

Peripheral ossifying fibroma and pyogenic granuloma. Are they interrelated?

N Y State Dent J 2008 Mar;74(2): p50-2

Prasad S; Reddy SB; Patil SR; Kalburgi NB; Puranik RS

Pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma: retrospective analysis of 138 cases.  
Minerva Stomatol 2008 May;57(5): p227-32  
Salum FG; Yurgel LS; Cherubini K; De Figueiredo MA; Medeiros IC; Nicola FS

Peripheral cemento-ossifying fibroma in a child: a case report.  
J Clin Pediatr Dent 2007 Fall;32(1): p57-9  
Passos M; Azevedo R; Janini ME; Maia LC

Peripheral ossifying fibroma: a clinical and immunohistochemical study of four cases.  
J Oral Sci 2010;52(1): p95-9  
Garcia de Marcos JA; Garcia de Marcos MJ; Arroyo Rodriguez S; Chiarri Rodrigo J; Poblet E

Peripheral giant cell granuloma and peripheral ossifying fibroma in children: two case reports.  
Med Princ Pract 2010;19(2): p159-62  
Ozalp N; Sener E; Songur T

## **Case 7**

A 39 y/o man was found on a routine Navy physical to have multiple bone lesions. He had previously been stationed in Bahrain and Thailand. An exhaustive workup by the AFIP (Depts. of infectious disease, genitourinary, GI pathology and hematopathology) were obtained. An AFIP "kermix" stain (CK cocktail) was positive. A myriad of other stains was negative.

### **Dx:**

Undifferentiated malignant neoplasm, favor epithelial origin, bone

Santa Barbara (Miramonte Laboratory) - Histiocytosis

Santa Rosa (Santa Rosa Memorial Hospital) - Bone marrow, clear cell infiltrate, rule out infectious etiology vs. clear cell carcinoma (1); Foamy histiocyte, rule out infection vs. clear cell tumor (1); Clear cell neoplasm, keratin stain suggests metastatic clear cell carcinoma (1)

Woodland Hills (Southern California Permanente) - Metastatic signet ring cell carcinoma

Alabama, Birmingham - Metastatic epithelial tumor

Alabama (Norwood Clinic) - Histoplasmosis

Arkansas (The Lab of Pathol, P.A.) - Metastatic clear cell carcinoma

Georgia, Atlanta - Metastatic mucinous adenocarcinoma

Idaho, Boise - Undifferentiated malignant neoplasm

Illinois, Oak Brook - Histiocytic proliferation

Kansas (Coffeyville Regional Medical Center) - Chordoma

Kansas (Peterson Laboratory Services) - Metastatic clear cell neoplasm (1); Chordoma (1)

Maryland, Baltimore - Poorly differentiated metastatic carcinoma with signet ring features

Michigan (Oakwood Hospital) - Metastatic carcinoma

New Mexico, Albuquerque - Whipples disease

New York (Rye Brook) - Metastatic signet ring carcinoma

Ohio, Columbus - Bone marrow, metastatic carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Metastatic signet ring carcinoma/multiple chordoma

Texas, Victoria - Histiocytic lesion



Canada (Pasqua Hospital) - Erdheim-Chester disease  
Hong Kong (Hong Kong Baptist Hospital) - Disseminated fungal infection  
India, Kochi - Undifferentiated malignant neoplasm  
The Netherlands, Amstelveen - Myxoid

### **Refs:**

Immunohistochemical approaches to the diagnosis of undifferentiated malignant tumors.

Ann Diagn Pathol 2008 Feb;12(1): p72-84

Wick MR

Investigations for bone metastasis from an unknown primary.

Joint Bone Spine 2007 Jan;74(1): p85-9

Destombe C; Botton E; Le Gal G; Roudaut A; Jousse-Joulin S;  
Devauchelle-Pensec V; Saraux A

Immunohistochemistry of small round-cell tumors.

Semin Diagn Pathol 2000 Aug;17(3): p216-24

Devoe K; Weidner N

Clinical significance and outcome of one or two rib lesions on bone scans in breast cancer patients without known metastases.

Nucl Med Commun 2003 Nov;24(11): p1167-74

Chen HH; Su WC; Guo HR; Lee BF; Su WR; Wu PS; Chiu NT

Desmosomes and microvilli mean a lot: diagnosis of neoplasms of unknown origin using electron microscopy.

Ultrastruct Pathol 2003 May-Jun;27(3): p155-61

Jackson SB; Strausbauch PH; Finley JL; Laich D; Hewan-Lowe KO

Fine needle aspiration cytology in the diagnosis of bone lesions.

Cytopathology 2005 Apr;16(2): p59-64

Handa U; Bal A; Mohan H; Bhardwaj S

### **Case 8**

A 49-year-old female presented with a 9.2 x 6.1 x 7.0 cm left upper abdominal mass extending to the left flank. On CT the mass demonstrated some ossification or calcification, and involved 2 to 3 lower left ribs and engulfing and obliterating one rib entirely with external extension to the rib cage (see CT scan).

### **Dx:**

Myxoid chondrosarcoma, ribs and abdomen

Santa Barbara (Miramonte Laboratory) - Chondrosarcoma

Santa Rosa (Santa Rosa Memorial Hospital) - Chondrosarcoma (3)

Woodland Hills (Southern California Permanente) - Chondrosarcoma

Alabama, Birmingham - Myxoid chondrosarcoma

Alabama (Norwood Clinic) - Chondrosarcoma

Arkansas (The Lab of Pathol, P.A.) - Chondrosarcoma

Georgia, Atlanta - Well-differentiated chondrosarcoma

Idaho, Boise - Myxoid chondrosarcoma

Illinois, Oak Brook - Chondrosarcoma L.G.

Kansas (Coffeyville Regional Medical Center) - Chondromyxoid sarcoma  
Kansas (Peterson Laboratory Services) - Myxoid chondrosarcoma (1); Chondrosarcoma (1)  
Maryland, Baltimore - Myxoid chondrosarcoma  
Michigan (Oakwood Hospital) - Chondrosarcoma  
New Mexico, Albuquerque - Chondrosarcoma, low grade  
New York (Rye Brook) - Myxoid chondrosarcoma  
Ohio, Columbus - Ribs, abdomen, chondrosarcoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Chondrosarcoma  
Texas, Victoria - Chondrosarcoma  
Canada (Pasqua Hospital) - Chondrosarcoma  
Hong Kong (Hong Kong Baptist Hospital) - Chondrosarcoma  
India, Kochi - Myxoid chondrosarcoma of ribs and abdomen  
The Netherlands, Amstelveen - Myxoid chondrosarcoma

### **Refs:**

Chondrosarcoma of the chest wall: a clinical analysis.  
Surg Today 2002;32(4): p291-6  
Briccoli A; De Paolis M; Campanacci L; Mercuri M; Bertoni F; Lari S;  
Balladelli A; Rocca M

Costal chondrosarcoma. Report of five cases.  
Rev Chir Orthop Traumatol 2009 Apr;95(2): p164-9  
Bacha D; Ayadi-Kaddour A; Fenniche S; Marghli A; Kilani T; El Mezni  
F

Genetics of chondrosarcoma and related tumors.  
Curr Opin Oncol 2004 Jul;16(4): p342-54  
Sandberg AA

Update on chondrosarcomas.  
Curr Opin Oncol 2007 Jul;19(4): p371-6  
Chow WA

Extraskkeletal myxoid chondrosarcoma of the chest wall masquerading  
as a breast tumor. A case report.  
Acta Cytol 2002 Mar-Apr;46(2): p417-21  
Rao L; Kudva R; Rao RV; Kumar B

### **Case 9**

A 76-year-old male was found to have a mass in the left thigh. Upon excision, the mass measured 4.2 x 3.8 x 2.4 cm and had a gray, hemorrhagic and gelatinous cut surface. FNA showed: "Numerous groups of non-pleomorphic oval to slightly spindle cells showing no mitotic activity or pleomorphism." with comment of "This may represent a member of the fibromatosis family or possible adipose neoplasm, and excisional biopsy of the area would be warranted to better define it."

### **Dx:**

Extra-skeletal myxoid chondrosarcoma, thigh

Santa Barbara (Miramonte Laboratory) - Chondromyxoid fibroma

Santa Rosa (Santa Rosa Memorial Hospital) - Chondromyxoid fibroma (2); Extraskelatal myxoid chondrosarcoma (1)  
Woodland Hills (Southern California Permanente) - Ossifying fibromyxoid tumor  
Alabama, Birmingham - Chondrosarcoma  
Alabama (Norwood Clinic) - Myxoid liposarcoma involving bone  
Arkansas (The Lab of Pathol, P.A.) - Extraskelatal chondromyxoid sarcoma  
Georgia, Atlanta - Extraskelatal myxoid chondrosarcoma  
Idaho, Boise - Extraskelatal myxoid chondrosarcoma  
Illinois, Oak Brook - Myxoid liposarcoma  
Kansas (Coffeyville Regional Medical Center) - Soft tissue osteoblastoma  
Kansas (Peterson Laboratory Services) - Extraskelatal myxoid chondrosarcoma (1); Myxoid liposarcoma (1)  
Maryland, Baltimore - Extraskelatal myxoid chondrosarcoma  
Michigan (Oakwood Hospital) - Myxoid chondrosarcoma  
New Mexico, Albuquerque - Myxoid chondrosarcoma  
New York (Rye Brook) - Extraskelatal myxoid chondrosarcoma  
Ohio, Columbus - Soft tissue, left thigh, extraskelatal myxoid chondrosarcoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Extraskelatal myxoid chondrosarcoma  
Texas, Victoria - Chondrosarcoma  
Canada (Pasqua Hospital) - Extraskelatal myxoid chondrosarcoma  
Hong Kong (Hong Kong Baptist Hospital) - Extraskelatal myxoid chondrosarcoma  
India, Kochi - Extraskelatal myxoid chondrosarcoma of thigh  
The Netherlands, Amstelveen - Extraskelatal myxoid chondrosarcoma

#### Refs:

Extraskelatal myxoid chondrosarcoma: updated clinicopathological and molecular genetic characteristics.

Pathol Int 2005 Aug;55(8): p453-63

Hisaoka M; Hashimoto H

Extraskelatal myxoid chondrosarcoma: a Multi-Institutional Study of 42 Cases in Japan.

Cancer 2003 Mar 1;97(5): p1285-92

Kawaguchi S; Wada T; Nagoya S; Ikeda T; Isu K; Yamashiro K; Kawai A; Ishii T; Araki N; Myoui A; Matsumoto S; Umeda T; Yoshikawa H; Hasegawa T

Extraskelatal myxoid chondrosarcoma: a clinicopathologic, immunohistochemical, and molecular analysis of 18 cases.

Hum Pathol 2001 Oct;32(10): p1116-24

Okamoto S; Hisaoka M; Ishida T; Imamura T; Kanda H; Shimajiri S; Hashimoto H

Cytopathology of extraskelatal myxoid chondrosarcoma: report of 8 cases.

Cancer 2007 Oct 25;111(5): p298-305

Jakowski JD; Wakely PE

Extraskelatal myxoid chondrosarcoma: a light microscopic, immunohistochemical, ultrastructural and immuno-ultrastructural study indicating neuroendocrine differentiation.

Histopathology 2001 Nov;39(5): p514-24

Goh YW; Spagnolo DV; Platten M; Caterina P; Fisher C; Oliveira AM; Nascimento AG

Extraskelatal myxoid chondrosarcoma with neuroendocrine differentiation: a pathologic, cytogenetic, and molecular study of a case with a novel translocation t(9; 17)(q22; q11.2).  
Am J Surg Pathol 2000 Jul;24(7): p1020-6  
Harris M; Coyne J; Tariq M; Eyden BP; Atkinson M; Freemont AJ; Varley J; Attwooll C; Telford N

### **Case 10**

A 46 y/o man with an elevated sed rate presented with a fracture of a humeral head. He was clinically found to have a monoclonal gammopathy of IgF lamda. X-rays demonstrated bone fracture and a mostly intramedullary tumor which extended into adjacent soft tissue.

### **Dx:**

Multiple myeloma, humerus

Santa Barbara (Miramonte Laboratory) - Myeloma  
Santa Rosa (Santa Rosa Memorial Hospital) - Plasmacytoma/multiple myeloma (3)  
Woodland Hills (Southern California Permanente) - Myeloma/plasmacytoma  
Alabama, Birmingham - Multile myeloma  
Alabama (Norwood Clinic) - Plasmacytoma  
Arkansas (The Lab of Pathol, P.A.) - Plasma cell myeloma  
Georgia, Atlanta - Plasma cell myeloma  
Idaho, Boise - Multiple myeloma  
Illinois, Oak Brook - Multiple myeloma  
Kansas (Coffeyville Regional Medical Center) - Multiple myeloma  
Kansas (Peterson Laboratory Services) - Plasmacytoma (1); Plasma cell myeloma (1)  
Maryland, Baltimore - Multiple myeloma  
Michigan (Oakwood Hospital) - Plasma cell myeloma  
New Mexico, Albuquerque - Plasmacytoma, high grade  
New York (Rye Brook) - Multiple myeloma  
Ohio, Columbus - Bone, humeral head, plasma cell myeloma  
Pennsylvania (Conemaugh Memorial Medical Center) - Plasmacytoma  
Texas, Victoria - Myeloma  
Canada (Pasqua Hospital) - Plasmacytoma  
Hong Kong (Hong Kong Baptist Hospital) - Myeloma  
India, Kochi - Multiple myeloma of humerus  
The Netherlands, Amstelveen - Multiple myeloma

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