

California Tumor Tissue Registry's
Subscription "C" - Vol 6(2)
October, 2012

"Heart and Great Vessels"

Case 1:

A 62 y/o asymptomatic Asian woman had a new onset heart murmur discovered on routine physical examination. An echocardiogram revealed a mass attached to the left atrial septum, prolapsing through and nearly occluding the mitral valve. A thoracotomy with excision of the left atrial mass was performed. The removed specimen was a 5.0 x 3.9 cm, irregular mass with an attached portion of myocardium. The sectioned surfaces were yellow and glistening, with focal areas of hemorrhage. The patient was well after 6 months.

Santa Barbara (Miramonte Laboratory) - Myxoma
Santa Rosa (Santa Rosa Memorial Hospital) - Myxoma (2) / cardiac myxoma
Woodland Hills (Southern California Permanente) - Atrial myxoma
Arkansas (The Lab of Pathol, P.A.) - Myxoma
Georgia, Atlanta - Cardiac myxoma
Louisiana, Shreveport - Myxoma
New Mexico, Albuquerque - Atrial myxoma
Ohio, Columbus - Heart, left atrium, myxoma
Texas, Victoria - Myxoma, atrial
Hong Kong (Hong Kong Baptist Hospital) - Cardiac myxoma
India, Kochi - Atrial myxoma
The Netherlands, Amstelveen - Cardiac myxoma

Dx:

Atrial myxoma, heart

Refs:

Clinical presentation of left atrial cardiac myxoma. A series of 112 consecutive cases.

Medicine (Baltimore) 2001 May;80(3): p159-72

Pinede L; Duhaut P; Loire R

Clinicopathologic study and DNA analysis of 37 cardiac myxomas: a 28-year experience.

Chest 2003 May;123(5): p1379-85

Acebo E; Val-Bernal JF, et al.

Cardiac tumor comprising two components including typical myxoma and atypical hypercellularity suggesting a malignant change.

Cardiovasc Pathol 2009 Nov-Dec;18(6): p369-74

Kusumi T; Minakawa M, et al.

Benign cardiac tumors of the pluripotent mesenchyme.

Semin Diagn Pathol 2008 Feb;25(1): p20-8

Vaideeswar P; Butany JW

Combination of right atrial and left ventricular myxoma.

Ann Thorac Surg 2010 May;89(5): p33-5

Korkmaz AA; Tamtekin B, et al.

Thymoma arising within cardiac myxoma.

Am J Surg Pathol 2005 Sep;29(9): p1208-13

Miller DV; Tazelaar HD, et al.

Cardiac myxoma: a cytogenetic study of two cases.

Cancer Genet Cytogenet 2004 Jan 15;148(2): p145-7

Guardiola T; Horton E, et al.

Case 2:

A 19 m/o infant, born one month premature with birth damage to the CNS from anoxia, showed evidence of pulmonary congestion with multiple respiratory infections. Within 24 hours of the last episode, she was re-admitted and passed away within an hour.

Autopsy showed a markedly enlarged heart, measuring 6 cm in transverse diameter and 6.5 cm in vertical diameter. Much of the left pleural space was occupied by this large heart and the left lung was crowded posteriorly and was, in part, atelectatic. The left ventricular wall was 2.0 cm in thickness and the right ventricular was 0.5 cm in thickness.

Santa Barbara (Miramonte Laboratory) - Glycogen storage disease

Santa Rosa (Santa Rosa Memorial Hospital) - Cardiac hypertrophy/ Myocardial hypertrophy

/Cardiac hypertrophy, suggesting mitochondrial cardiomyopathy

Woodland Hills (Southern California Permanente) - Endomyocardial fibrosis

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

Georgia, Atlanta - Hypertrophic cardiomyopathy

Louisiana, Shreveport - Storage disease

New Mexico, Albuquerque - Histiocytoid cardiomyopathy

Ohio, Columbus - Heart, myocardium, vacuolization consistent with glycogen storage disease (most likely Pompe's dz)

Texas, Victoria - GSD, Pompe's disease

Hong Kong (Hong Kong Baptist Hospital) - Idiopathic hypertrophic cardiomyopathy

India, Kochi - Pompe's disease

The Netherlands, Amstelveen - Storage disease

Dx:

Pompe disease (Glycogen storage disease), heart

Refs:

Pompe's disease.

Lancet 2008 Oct 11;372(9646): p1342-53

van der Ploeg AT; Reuser AJ

Pompe disease in infants: improving the prognosis by newborn screening and early treatment.

Pediatrics 2009 Dec;124(6): p1116-25

Chien YH; Lee NC, et al.

Disease severity in children and adults with Pompe disease related to age and disease duration.

Neurology 2005 Jun 28;64(12): p2139-41

Hagemans ML; Winkel LP, et al.

High-resolution light microscopy (HRLM) and digital analysis of Pompe disease pathology.

J Histochem Cytochem 2005 Jan;53(1): p63-73

Lynch CM; Johnson J, et al.

Glycogen storage diseases presenting as hypertrophic cardiomyopathy.

N Engl J Med 2005 Jan 27;352(4): p362-72

Arad M; Maron BJ, et al.

Case 3:

A 15 month old boy sustained sudden death. When he was 10 months of age his mother noted rapid respirations and took him to the pediatrician. A chest x-ray revealed cardiomegaly and he was referred to a cardiologist. Examination showed a systolic murmur, and EKG revealed septal hypertrophy with biventricular extension. Three months later, an MRI showed calcifications in the mid portion of the heart. The child continued to be asymptomatic, but experienced sudden death as he was playing. The heart weighed 245 grams. A large tumor (9.0 x 5.0 x 4.0 cm) was found to occupy the septum. It was rubbery firm, pale tan white, with a thatched whorled appearance. The edges were nodular. The mass markedly distorted the anatomy of the heart, and severely compressed the right ventricle.

Santa Barbara (Miramonte Laboratory) - Hypertrophic cardiomyopathy

Santa Rosa (Santa Rosa Memorial Hospital) - Cardiac Fibroma (3)

Woodland Hills (Southern California Permanente) - Rhabdomyoma

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

Georgia, Atlanta - Cardiac fibroma

Louisiana, Shreveport - Fibroma

New Mexico, Albuquerque - Cardiac fibroma

Ohio, Columbus - Heart, fibroma

Texas, Victoria - Fibroma, septal

Hong Kong (Hong Kong Baptist Hospital) - Hamartoma

India, Kochi - Intraseptal fibroma of heart

The Netherlands, Amstelveen - Atrophic cardiomyocytes

Dx:

Intraseptal fibroma, heart

Refs:

Cardiac fibromas.

Semin Diagn Pathol 2008 Feb;25(1): p17-9

Gotlieb AI

Cardiac fibroma.

Ann Thorac Surg 2005 May;79(5): p1786

Ipek G; Mansuroglu D; Omeroglu A; Omeroglu SN; Mataraci I

Fibroma and inflammatory myofibroblastic tumor of the heart.

Ann Diagn Pathol 2001 Dec;5(6): p335-42

de Montpreville VT; Serraf A, et al.

Benign cardiac tumors and tumorlike conditions.

Ann Diagn Pathol 2010 Jun;14(3): p215-30
Jain D; Maleszewski JJ; Halushka MK

Surgical management of symptomatic cardiac fibromas in children.
J Thorac Cardiovasc Surg 2007 Jan;133(1): p254-5
Davies B; Oppido G; Brizard CP

Case 4:

A 43 y/o man presented with sudden onset of bilateral lower extremity pain. Radiographs showed total occlusion of the right profunda femoral artery 8 cm from its origin and of the right popliteal artery near the patella. On the left, total occlusion of the popliteal artery was present. Your slide is from tissue removed from a bilateral femoral artery exploration. A chest x-ray was negative.

Santa Barbara (Miramonte Laboratory) - Tumor embolus
Santa Rosa (Santa Rosa Memorial Hospital) - Low grade sarcoma possibly myxosarcoma, embolized / Low grade sarcoma ?embolized cardiac myxosarcoma/Myxoid tumor ?embolized cardiac myxoma
Woodland Hills (Southern California Permanente) - Chondrosarcoma
Arkansas (The Lab of Pathol, P.A.) - Myxoma emboli
Georgia, Atlanta - Metastatic neoplasm suggestive of chondrosarcoma
Louisiana, Shreveport - Thrombus with tumor cells
New Mexico, Albuquerque - Cardiac myxoma emboli
Ohio, Columbus - Arteries, bilateral femoral, consistent with embolic myxoma
Texas, Victoria - Thromboemboli, lower extremity.
Hong Kong (Hong Kong Baptist Hospital) - Chondrosarcoma
India, Kochi - Emboli from cardiac myxoma
The Netherlands, Amstelveen - Cardiac myxoma?

Dx:

Cardiac myxoma embolus to lower extremities

Refs:

Metastatic cardiac myxoma.
Ann Thorac Surg 2001 Aug;72(2): p623-5
Kaynak K; Besirli K, et al.

Acute occlusion of abdominal aorta: unusual embolization site for a cardiac tumor mass.
Tumori 2002 Sep-Oct;88(5): p417-9
Veroux P; Mignosa C; Veroux M, et al.

Left atrial myxoma embolus to the renal artery: should a nephrectomy be advised?
Ann Thorac Surg 2010 Jul;90(1): p289-92
Blackmon SH; Kassis ES, et al.

Complete detachment of cardiac myxoma causing aortic saddle embolization and cerebral infarction.
Int J Cardiol 2008 Jul 4;127(2): pe48-9
Ohgo T; Yamamoto K; Furuno T

Case 5:

An 8.7 pound baby boy was born at 33 weeks, immediately intubated and put on respiratory support. Two weeks earlier an obstetrical ultrasound was reported as "abnormal". Following birth a radiograph showed an enlarged left ventricle and an echocardiogram showed multiple masses projecting into the left ventricle, one of which partially obstructed the outflow tract from the left ventricle. The baby was treated with prostaglandin, but due to the severity of the tumors with a fatal prognosis, the infant was extubated. He died three days after birth. The heart weighed 82 grams, was markedly enlarged and slightly distorted. The myocardium of the left ventricle, anterior wall of the right ventricle and apex were pale tan, soft and somewhat friable. It contained multiple firm, tan-white nodules up to 18 mm that diffusely infiltrated the myocardium, including lateral papillary muscles. Nodules below the aortic valve were up to 9 mm in greatest diameter.

Santa Barbara (Miramonte Laboratory) - Glycogen storage disease
Santa Rosa (Santa Rosa Memorial Hospital) - Rhabdomyoma (3)
Woodland Hills (Southern California Permanente) - Cardiac rhabdomyoma
Arkansas (The Lab of Pathol, P.A.) - Rhabdomyoma
Georgia, Atlanta - Cardiac rhabdomyoma
Louisiana, Shreveport - Rhabdomyoma
New Mexico, Albuquerque - Rhabdomyomas
Ohio, Columbus - Heart, rhabdomyoma, multiple
Texas, Victoria - Rhabdomyomatosis, cardiac
Hong Kong (Hong Kong Baptist Hospital) - Rhabdomyoma
India, Kochi - Rhabdomyoma left ventricle
The Netherlands, Amstelveen - Rhabdomyoma

Dx:

Rhabdomyoma, left ventricle

Refs:

Cardiac rhabdomyoma.

Arch Pathol Lab Med 2002 Dec;126(12): p1559

Chen X; Hoda SA; Edgar MA

Cardiac rhabdomyoma.

Cardiovasc Pathol 2009 Sep-Oct;18(5): p313-4

Amonkar GP; Kandalkar BM; Balasubramanian M

Fetal rhabdomyoma: prenatal diagnosis, clinical outcome, and incidence of associated tuberous sclerosis complex.

J Pediatr 2003 Nov;143(5): p620-4

Bader RS; Chitayat D, et al.

Familial fetal-type rhabdomyoma of the tricuspid valve in the neonate: malignant course for a benign disease.

J Thorac Cardiovasc Surg 2009 Mar;137(3): p751-753.e7

Viscardi F; Errico G, et al.

Adult cellular rhabdomyoma of the heart: a report of 3 cases.

Hum Pathol 2002 Nov;33(11): p1092-7

Burke AP; Gatto-Weis C, et al.

Benign cardiac tumors and tumor-like conditions.
Ann Diagn Pathol 2010 Jun;14(3): p215-30
Jain D; Maleszewski JJ; Halushka MK

Case 6:

A 7 y/o boy was found to have a 27 gm, 4.9 cm pink-tan lobular & mucoid tumor with cystic spaces up to 1.7 cm involving the right atrium. Ki67 3-15%, CD31-, SMA+.

Santa Barbara (Miramonte Laboratory) - Myxoma
Santa Rosa (Santa Rosa Memorial Hospital) - Myxoid tumor r/o myxosarcoma/Myxoid tumor, NOS / Inflammatory myofibroblastic tumor
Woodland Hills (Southern California Permanente) - Cardiac myxoma
Arkansas (The Lab of Pathol, P.A.) - Inflammatory myofibroblastic tumor
Georgia, Atlanta - Inflammatory myofibroblastic tumor
Louisiana, Shreveport - Inflammatory pseudotumor
New Mexico, Albuquerque - Inflammatory fibroblastic tumor
Ohio, Columbus - Heart, right atrium, fibromyxoid tumor
Texas, Victoria - Leiomyosarcoma
Hong Kong (Hong Kong Baptist Hospital) - Myxoid leiomyosarcoma
India, Kochi - Inflammatory myofibroblastic tumor
The Netherlands, Amstelveen - IMT?

Dx:

Inflammatory myofibroblastic tumor, right atrium

Refs:

Asymptomatic inflammatory myofibroblastic tumor of the heart: immunohistochemical profile, differential diagnosis, and review of the literature.

Cardiovasc Pathol 2009 May-Jun;18(3): p187-90
Pucci A; Valori A, et al.

Inflammatory myofibroblastic tumor with valvular involvement: a case report and review of the literature.

Cardiovasc Pathol 2007 Nov-Dec;16(6): p359-64
Butany J; Dixit V; Leong SW, et al.

Would a morphomolecular approach help in defining pseudosarcomatous myofibroblastic proliferations? A study of a heart polypoid lesion.

J Clin Pathol 2009 Apr;62(4): p377-9
Nemolato S; Dettori T, et al.

Inflammatory pseudotumor (myofibroblastic tumor) of the heart.

Ann Diagn Pathol 2002 Apr;6(2): p116-21
Li L; Cerilli LA; Wick MR

Fibroma and inflammatory myofibroblastic tumor of the heart.

Ann Diagn Pathol 2001 Dec;5(6): p335-42
de Montpreville VT; Serraf A, et al.

Pulmonary inflammatory myofibroblastic tumor invading the left atrium.

Ann Thorac Surg 2003 Aug;76(2): p601-3
Berman M; Georghiou GP, et al.

Case 7:

A 56 y/o woman complained of chest pain and shortness of breath. Her family also noticed her to have syncopal episodes and dizziness. She was found dead in her bathroom. An autopsy found a 4 cm hemorrhagic tumor involving the base of the heart with tumor tendrils extending/involving the right pulmonary artery.

Santa Barbara (Miramonte Laboratory) - Hemangiopericytoma
Santa Rosa (Santa Rosa Memorial Hospital) - Leiomyosarcoma (3)
Woodland Hills (Southern California Permanente) - Rhabdomyosarcoma
Arkansas (The Lab of Pathol, P.A.) - Leiomyosarcoma
Georgia, Atlanta - Intimal sarcoma
Louisiana, Shreveport - Leiomyosarcoma
New Mexico, Albuquerque - Leiomyosarcoma
Ohio, Columbus - Pulmonary artery, right, leiomyosarcoma
Texas, Victoria - Epithelioid leiomyosarcoma
Hong Kong (Hong Kong Baptist Hospital) - Rhabdomyosarcoma
India, Kochi - Leiomyosarcoma of right pulmonary artery and base of heart
The Netherlands, Amstelveen - Leiomyosarcoma

Dx:

Leiomyosarcoma, right pulmonary artery and base of the heart

Refs:

Primary pulmonary artery leiomyosarcoma.
Cardiovasc Pathol 2003 May-Jun;12(3): p166-9
Croitoru AG; Klein MJ, et al.

Pulmonary artery leiomyosarcoma: an unusual cause of shortness of breath.

Ir J Med Sci 2011 Mar;180(1): p275-8
Flaherty G; McCarthy P; Mortimer G

Unusual pulmonary lesions: case 3. Pulmonary vein leiomyosarcoma presenting as a left atrial mass.

J Clin Oncol 2002 Jun 1;20(11): p2749-51
Laroia ST; Potti A, et al.

Pulmonary artery sarcoma: a histologic and follow-up study with emphasis on a subset of low-grade myofibroblastic sarcomas with a good long-term follow-up.

Am J Surg Pathol 2008 Dec;32(12): p1751-61
Tavora F; Miettinen M; Fanburg-Smith J, et al.

Surgical treatment of pulmonary artery leiomyosarcoma: a good survival without adjuvant therapy.

Ann Thorac Surg 2011 Dec;92(6): p2252-4
Colak N; Nazli Y, et al.

Huge primary pleomorphic leiomyosarcoma in the right ventricle with impending obstruction of both inflow and outflow tracts.

Circ J 2009 Apr;73(4): p779-82
Lee SH; Kim WH, et al.

Case 8:

43 y/o man who was thought to have a thoracic aortic aneurysm. At surgery a right atrial mass was found and debulked. It was strongly positive for CD31 and CD34. Seen by Dr. Chris Fletcher at Brigham & Women's Hospital/Harvard Medical School who concurred.

Santa Barbara (Miramonte Laboratory) - Angiosarcoma
Santa Rosa (Santa Rosa Memorial Hospital) - Angiosarcoma (3)
Woodland Hills (Southern California Permanente) - Angiosarcoma
Arkansas (The Lab of Pathol, P.A.) - Angiosarcoma
Georgia, Atlanta - High grade Angiosarcoma
Louisiana, Shreveport - Angiosarcoma
New Mexico, Albuquerque - Angiosarcoma
Ohio, Columbus - Heart, right atrium, Angiosarcoma
Texas, Victoria - Angiosarcoma, right atrium
Hong Kong (Hong Kong Baptist Hospital) - Angiosarcoma
India, Kochi - Angiosarcoma of right atrium
The Netherlands, Amstelveen - Angiosarcoma

Dx:

Angiosarcoma, right atrium

Refs:

Primary cardiac angiosarcoma of left atrium.
J Card Surg 2009 Sep-Oct;24(5): p524-5
Ho CK; Wang E; Au WK; Cheng LC

Clinicopathologic and immunohistochemical characteristics of adult primary cardiac angiosarcomas: analysis of 10 cases.
Ann Diagn Pathol 2011 Aug;15(4): p262-7
Ge Y; Ro JY, et al.

Cardiac angiosarcoma: a case report and review of the literature.
Cardiovasc Pathol 2010 May-Jun;19(3): pe69-74
Luk A; Nwachukwu H, et al.

A rare cardiac neoplasm: case report of cardiac epithelioid angiosarcoma.
Cardiovasc Pathol 2011 Sep-Oct;20(5): pe197-201
Matzke LA; Knowling MA, et al.

Clinicopathologic study of 24 patients with primary cardiac sarcomas: a 10-year single institution experience.
Hum Pathol 2008 Jun;39(6): p933-8
Kim CH; Dancer JY; Coffey D, et al.

Malignant primary cardiac tumors: review of a single institution experience.
Cancer 2008 Jun;112(11): p2440-6
Simpson L; Kumar SK, et al.

Case 9:

A 78 y/o man had a twenty year history of a soft tissue tumor of the buttock which had recurred locally eight years later, and then, more recently, was found in the forearm. After its excision, this mass was found in the pericardium. A CT scan showed it to be 12 cm. It became symptomatic because of compression of the left ventricle. A partial excision of the pericardial tumor was done, removing 820 grams of fragments aggregating 14.0 cm in greatest diameter. The material was gelatinous with a variegated cut surface.

Santa Barbara (Miramonte Laboratory) - PEComa
Santa Rosa (Santa Rosa Memorial Hospital) - Epithelioid sarcoma (2) / Liposarcoma, metastatic
Woodland Hills (Southern California Permanente) - Rhabdomyosarcoma
Arkansas (The Lab of Pathol, P.A.) - Myxoid round cell liposarcoma
Georgia, Atlanta - Metastatic sarcoma; r/o myxoid/round cell liposarcoma
Louisiana, Shreveport - Myxoid liposarcoma
New Mexico, Albuquerque - Metastatic liposarcoma
Ohio, Columbus - Pericardium, sarcoma probably metastatic
Texas, Victoria - Myxoid liposarcoma
Hong Kong (Hong Kong Baptist Hospital) - Metastatic chordoma
India, Kochi - Myxoid round cell liposarcoma metastatic to pericardium
The Netherlands, Amstelveen - Sarcoma

Dx:

Myxoid round cell liposarcoma, metastatic to pericardium

Refs:

The first case report of a metastatic myxoid liposarcoma invading the left atrial cavity and pulmonary vein.

Heart Surg Forum 2011 Aug;14(4): pE261-3

Dogan U; Zamani A, et al.

Surgical treatment for epicardial metastasis of myxoid liposarcoma involving atrioventricular sulcus.

J Card Surg 2009 Jul-Aug;24(4): p457-60

Komoda S; Komoda T, et al.

Myxoid/round cell and pleomorphic liposarcomas: prognostic factors and survival in a series of patients treated at a single institution.

Cancer 2007 Jun 15;109(12): p2522-31

Fiore M; Grosso F, et al.

Primary malignant pericardial sarcoma.

Int J Cardiol 2009 Jul 24;136(1): p96-9

Zhengrong W; Yun Z; Fuchun Z

Pericardial myxoid liposarcoma in a common eland (Taurotragus oryx).

J Comp Pathol 2011 Jul;145(1): p103-6

Foster AP; Johnston PE; Duignan PJ; Schock A

Case 10:

A 64 y/o black man presented with a history of weakness, leg swelling and increasing abdominal girth. An upper GI series showed partial obstruction of the 3rd portion of the duodenum. He expired one month later. An autopsy showed multiple, firm, yellow-white masses throughout the abdominal and pleural cavities. The myocardium also contained comparable masses ranging from 1.5 - 4.5 cm in diameter. Calretinin, EMA and CK positive.

Santa Barbara (Miramonte Laboratory) - Angiosarcoma
Santa Rosa (Santa Rosa Memorial Hospital) - Metastatic sarcoma r/o angiosarcoma metastatic (2) / Metastatic malignant neoplasm, needs IHC evaluations
Woodland Hills (Southern California Permanente) - Rhabdomyosarcoma
Arkansas (The Lab of Pathol, P.A.) - Mesothelioma
Georgia, Atlanta - Malignant spindle neoplasm; r/o mesothelioma
Louisiana, Shreveport - Mesothelioma
New Mexico, Albuquerque - Metastatic melanoma
Ohio, Columbus - Heart, malignant neoplasm
Texas, Victoria - Metastatic sarcoma, type ?
Hong Kong (Hong Kong Baptist Hospital) - Malignant mesenchymal tumor
India, Kochi - Mesothelioma involving the heart
The Netherlands, Amstelveen - Melanoma?

Dx:

Mesothelioma involving heart

Refs:

Metastatic peritoneal mesothelioma in the setting of recurrent ascites: a case report.

Diagn Cytopathol 2010 Sep;38(9): p675-81

Samedi V; White S, et al.

Problems in mesothelioma diagnosis.

Histopathology 2009 Jan;54(1): p55-68

Addis B; Roche H

Molecular biomarkers in malignant mesothelioma: state of the art.

Pathology 2011 Apr;43(3): p201-12

Kao SC; Reid G, et al.

Pericardial tumors.

Semin Diagn Pathol 2008 Feb;25(1): p47-53

Luk A; Ahn E, et al.

Malignant mesothelioma.

Orphanet J Rare Dis 2008;3:34

Moore AJ; Parker RJ; Wiggins J

Multicystic mesothelioma of the pericardium.

Pathol Int 2011 May;61(5): p319-21

Morita S; Goto A, et al.

