

Solid Tumour Section

Mini Review

Bone: Haemangiomas and related lesions

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Identity

Note: Haemangiomas are benign, vasoformative lesions of endothelial origin. Multiple lesions, involving two or more distant sites in bone, are defined as (haem)angiomatosis. Rarely these lesions are associated with massive osteolysis (Gorham-Stout syndrome).

Classification

Multiple variants of haemangiomas are reported, depending on variable histological features.

Haemangioma: cavernous, capillary, epithelioid.

Angiomatosis: non-aggressive (regional), disseminated (cystic angiomatosis), aggressive (massive osteolysis).

Clinics and pathology

Disease

Haemangioma.

Phenotype / cell stem origin

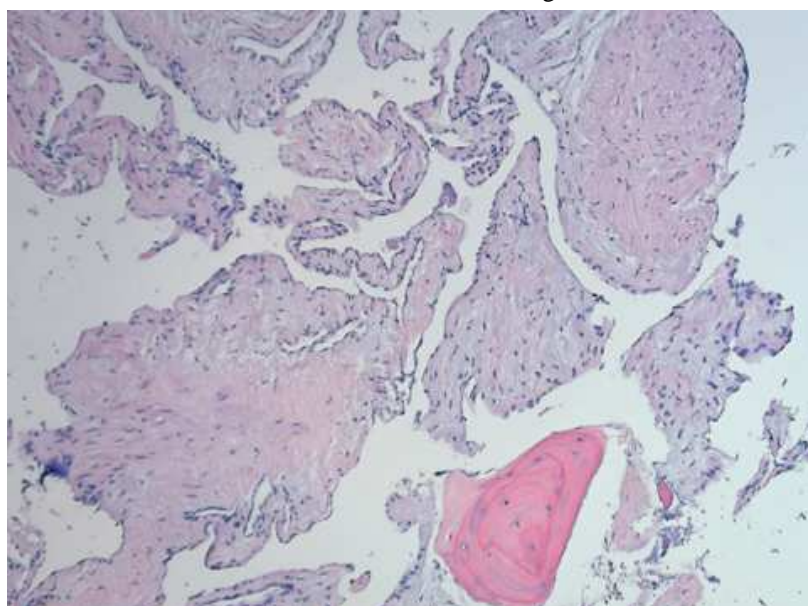
Endothelial cell.

Etiology

It is suggested that these lesions are congenital or developmental disorders, although the etiology remains unknown.

Epidemiology

Haemangiomas are relatively common. Autopsy studies report in 10 to 12% of the population spinal haemangiomas.



Haemangioma of bone - HE (10x).

Clinics

Haemangiomas are in general asymptomatic, accidental radiographic findings, which are mostly located in skull (flat bones) and spine although extraspinal locations can occur. They are described at all ages, with a peak incidence at the fifth decade. There is a slight female predilection (M:F is 2:3). Large lesions can be symptomatic and symptoms as pain, cord compression and neurological deficit are reported.

Pathology

Haemangiomas have variable histological features, which are similar to haemangiomas elsewhere in the body. Cavernous/capillary haemangiomas: with blood filled, thin-walled spaces lined by a single layer of flat, not atypical endothelial cells. Epithelioid haemangioma: well formed, mature vessels filled with erythrocytes. The vessels are lined by epithelioid cells, characterized by a large amount of eosinophilic cytoplasm. Intracytoplasmic vacuoles can be present. When the cells protrude in the lumen, a tombstone aspect can be seen. A variable inflammatory infiltrate containing lympho-cytes and eosinophils is present. There is no hyaline-lineation or myxoid changes of the surrounding stroma.

Treatment

When necessary, surgical intervention (curettage or resection) can be considered with or without reconstruction.

Evolution

Although progression towards an angiosarcoma is described, it is absolute extremely rare.

Prognosis

Haemangiomas have a good prognosis and low recurrence rate.

Disease

(Haem) angiomatosis

Note

(Haem) angiomatosis of bone can be associated with multiple skin, soft tissue and visceral haemangiomas.

Phenotype / cell stem origin

Endothelial cell.

Etiology

Is still unknown.

Epidemiology

It is a rare disease and in literature only few cases, mostly case reports, are described. Rarely haemangiomatosis is associated with massive regional osteolysis. Multiple, bone-associated haemangiomas can occur within some syndromes, such as: Maffucci's syndrome, Kasabach-Merritt syndrome,

Klippel-Trenaunay / Parkes-Weber syndrome and Osler-Weber-Rendu disease.

Clinics

Clinical features are variable and depend on the number of lesions, location and size. Pain and pathological fractures are the most common reported clinical features. Gorham-Stout syndrome or massive osteolysis affects the young adults and is a typical radiological finding. Half of the cases of Gorham-Stout syndrome are associated with trauma.

Pathology

Histological pattern is identical to that of haemangioma.

Treatment

Depends on the extent and location of the haemangiomas. Bone-associated haemangiomatosis syndromes can require a more specific approach.

Evolution

Similar as haemangiomas.

Prognosis

Extended visceral lesions have a more aggressive course mostly due to massive hemorrhaging.

Genetics

Note

No underlying genetic disorders or aberrations are described or known.

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