

Hemangioma

Hemangioma of the skeletal system is rare and accounts for only about one per cent of all skeletal tumors. It is slightly more common in females with the most common locations being the skull and spinal column, and the least common location being the appendicular skeleton where it is seen typically in long bones such as the humerus, femur and tibia. The presence of asymptomatic incidental hemangiomas of the vertebral bodies at autopsy has been noted to be as high as 10 per cent. The hemangioma is considered a hamartomatous dysplastic process similar to fibrous dysplasia. It can be monostotic or polyostotic. The lesions occur during the developmental years but are frequently not diagnosed until middle age when they are picked up as incidental findings, perhaps during the performance of an MRI study of the axial skeletal.

Radiographically, the hemangioma is a lytic process with fairly geographic borders. The lesions tend to have a moth-eaten or honeycomb appearance in both the axial skeleton and long bones due to reactive bone formation surrounding the vascular spaces. In the axial skeleton, the characteristic radiographic feature is a vertically oriented honeycomb pattern. In flat bones, such as the iliac crest or the calvarium, the lesion may have a soap-bubbly or sunburst appearance, especially in the calvarium where these lesions typically occur. Because of the osteoblastic response to the vascular dysplasia, the radiographic appearance can be similar to that of an osteoid osteoma or an osteoblastoma. With MR imaging, one may find a soft tissue component to the bony lesion, especially in the appendicular skeleton. Histologically, the lesion tends to be grossly bloody in appearance with large vascular sinusoids lined by a single layer of flat-appearing endothelial cells filled with blood. Occasionally, one will see an epithelioid pattern to the endothelial cells that gives them a more cube-like appearance similar to the histological appearance of an epithelioid low-grade hemangioendothelioma.

Many of these smaller lesions are incidental findings and require no treatment. However, with larger lesions, especially in the vertebral column, mechanical collapse associated with spinal cord compression may occur and might require curettement of the lesion with bone grafting and possible spinal instrumentation with larger defects. Also, larger lesions in the spinal area may require embolization therapy prior to surgery to reduce hemorrhage at the time of exploration. Occasionally, low dose radiation therapy can reduce the lytic process produced by these dysplastic lesions.

