Abstract: Benign hemangiomas are uncommon tumors constituting less than 1 percent of all the bone tumors. They involve frequently vertebral bodies and skull, which usually asymptomatic. Involvement of tubular long bones is rare but when they involve, they will be symptomatic and occur in metaphysisal region. Only few case reports are available for the involvement of juxtaarticular epiphysial region. We are presenting a case report of cavernous hemangioma of proximal radius involving radial head with pathological fracture.

Keyword: Hemangioma, radial head, cavernous hemangioma, pathological fracture, intraosseous hemangioma, skeletal hemangioma, radial head excision

INTRODUCTION: Hemangioma are neoplastic entities arising from the blood vessels comprising of less than 1% of all the primary bone tumors. They most frequently occur in vertebral column (30%-50%) and skull (20%). Involvement of the long bones is rare. Microscopically, hemangiomas are classified according to the predominant vascular channel type as capillary, cavernous, arteriovenous, or venous. While the capillary type occurs especially in the head and neck region, cavernous hemangioma (cavernoma) occurs in a wide variety of organs including skin, subcutis, soft tissue, liver, brain and bones.

CASE REPORT: A 27 year old female presents with a history of trivial fall c/o pain and restriction of the movement in RT elbow since one day. She also gives H/O vague pain in RT elbow joint, Tenderness, Swelling, mild crepitus at the radial head, painful and restricted ROM was present. X-Ray of the RT elbow both AP and lateral views were taken, which revealed osteolytic lesion with pathological fracture of radial head. Patient was admitted for further evaluation and given above elbow slab.

X-RAY AP VIEW
X-RAY LAT VIEW
MRI: Lytic lesion with septations seen in the epiphysis of the right proximal radius with measurement 2.5×1.8×2.2 cm. Pathological fracture noted. Marrow edema seen extending to meta diaphysis. Hemorrhage seen within the lesion. Moderate effusion seen in the elbow joint. Features suggestive of Giant Cell Tumour of the radial head with pathological fracture.
MRI
Suspecting pathological fracture secondary to GCT of proximal radius, wide excision was planned and excision of the lesion done with wide margin and sample sent for the HPE. Excised specimen showed multilocular cyst with haemorrhage.

SPECIMEN
HPE: shows multiple vascular spaces of varying sizes, filled with red blood cells surrounded by fibrocartilagenous tissue and specules of the bone. Features suggestive of *intraosseous cavernous hemangioma*

HPE
After the procedure patient recovered well, and regained full range of movement of the elbow.

**DISCUSSION:**
Haemangiomas of the long bones can be broadly divided as medullary, periosteal and intracortical depending on the site of origin. The medullary type is further subdivided into diaphysial (48%), metadiaphysial (30%), metaphysial (12%), metaepiphyseal (4%), epimetaepiphyseal (3%) and epiphyseal (1%) [2]. Epiphyseal or juxarticular occurrence is rare with very few reports one involving femur [19, 20]. Haemangiomas involving the axial skeleton are commonly asymptomatic and often discovered incidentally during a radiographic study [11], whereas haemangiomas of the appendicular skeleton are often symptomatic.

In one series, peripheral haemangiomas were symptomatic in 91% of cases, out of which 37% had pain, 7% had swelling and 7% had restriction of function due to pathological fracture.

Due to the lack of consistent radiological features and rarity, it is often difficult to radiologically diagnose these lesions pre-operatively [12]. On radiographs, haemangiomas may show a coarse loculated, sunburst, moth-eaten, and soap bubble appearance due to expansive proliferation of engorged vessels and thickened, remodelled bone trabeculae [5]. An expansile osteolytic appearance is their least common presentation. On MRI, haemangiomas show a variable appearance and may demonstrate low, intermediate or high signal intensity on T1 WI. Haemangiomas may sometimes because of their fat content appear hyper intense on T1 WI. They are usually hyper intense on T2 WI due to free water in stagnant blood within the haemangioma [14]. On STIR images, these lesions appear markedly intense due to suppression of normal bone marrow. Haemangiomas can show marked to minimal or no enhancement after contrast administration [15].

The differential diagnosis for a long bone haemangioma in juxarticular location includes GCT, ABC and plasmacytoma. Other rare possibilities are metastasis and a brown tumour [11]. The treatment of these lesions is surgical excision, even with considerable bleeding during the operation [18, 19]. These tumours can recur or may be the first sign of systemic disease [16, 17].

**CONCLUSION:** Cavernous hemangioma of proximal radius is of rare occurrence. It has to be considered among the differential diagnosis in the osteolytic lesions of proximal radius. Diagnosis is difficult radiologically, and has to be confirmed by histopathology. Excessive bleeding has to be anticipated while excising the tumour which is one of mode of the treatment.

**BIBLIOGRAPHY:**