Letter to the Editor

Primary chondrosarcoma in the young

Sir,

Chondrosarcoma (CS) is primarily a tumor of adulthood, presenting most often in patients who are in the third to seventh decade of life. Its occurrence in children is rare. Although several studies describe the clinicopathologic features and behavior of chondrosarcoma in general, only a few reports specifically discuss chondrosarcoma occurring in patients less than 20 years of age.[1] The most frequent sites of involvement in children are appendicular skeleton, humerus, pelvic bones followed in frequency by femur and tibia.[1,2] We present a case of chondrosarcoma of tibia in an 18-year-old female.

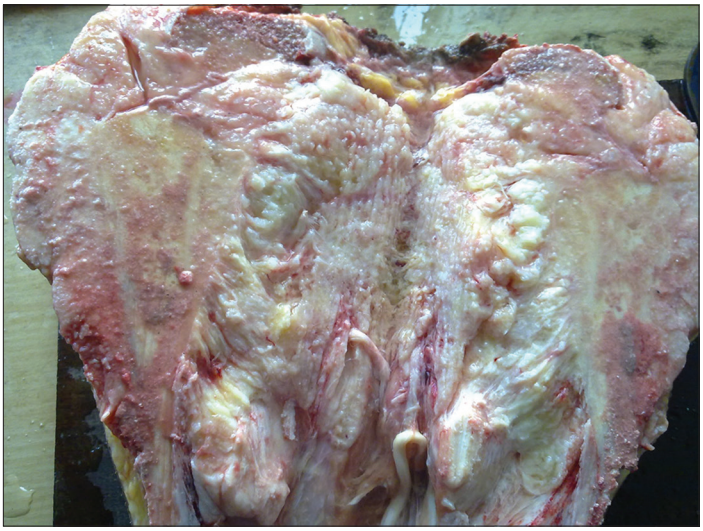

Figure 1: Gross photograph showing large exophytic grey white tumor in tibia extending in to adjacent soft tissues

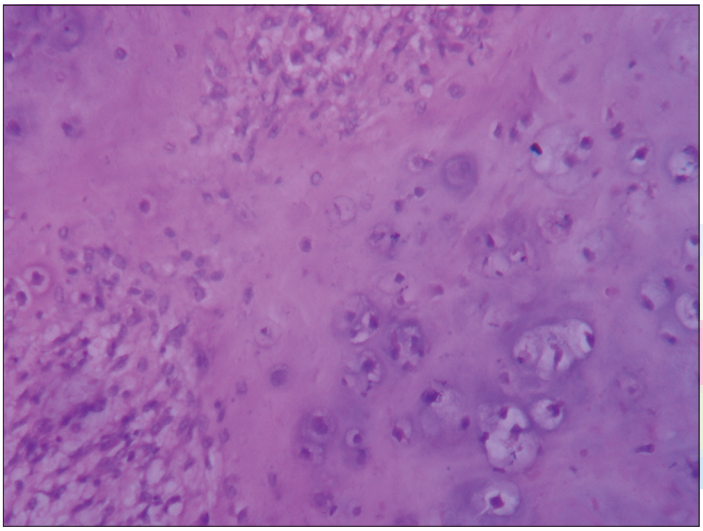

Figure 2: Microphotograph showing lobules of neoplastic cartilage separated by cellular spindle cell stroma (H and E, x100)

Patient presented with painful swelling over proximal aspect of left leg since 2 years. There was sudden increase in size of the swelling since 6 months. No history of predisposing hereditary conditions to chondrosarcoma like Ollier's disease, Maffucci syndrome, multiple hereditary exostosis. No history of radiation or chemotherapy. On local examination, there was a diffuse, firm to hard swelling measuring 20 cm × 20 cm over proximal one-third of left leg extending to middle one-third. Alkaline phosphatase and acid phosphatase was elevated. Radiograph of left tibia showed large soft tissue mass containing speckled calcifications. CT scan showed lytic lesion arising from the tibia with disruption of the cortex and an extensive soft tissue mass containing calcification. Multiple aspirations yielded blood and blood elements with foci of myxoid areas, aspiration cytology was inconclusive. Left above knee amputation was done.

On gross examination, there was swelling in the upper end of the tibia measuring 18 × 17 cm. Cut section showed large exophytic grey-white tumor with foci of myxoid change measuring 16 × 15 cm, extending in to adjacent soft tissue, joint space, and lower end of femur [Figure 1]. Soft tissue resected margin appeared free from tumor. Microscopy showed lobules of neoplastic cartilage with hypercellularity, nuclear pleomorphism, few with intranuclear grooves, and prominent nucleoli. These lobules were separated by cellular spindle cell stroma showing moderate degree of pleomorphism [Figure 2]. Also, an extensive focus of calcification was noted. Histological diagnosis of chondrosarcoma grade 2 was made. The patient had an event-free post-operative course, and there was no evidence of local recurrence or metastasis.

In one study, it was seen that chondrosarcoma affecting young individuals is, in general, a more ominous tumor as compared with adults and is relatively more high-grade.[1] However, in another study, it was proved that tumors were low-grade, and prognosis in childhood chondrosarcoma is no different from that in adult chondrosarcoma.[2]

For low grade CS's, prognosis is excellent after an adequate excision, with very low rates of recurrence or spread.[3] In a review of 70 young patients with low-grade CS of the appendicular skeleton, only 3 presented with metastasis. Radiation therapy and chemotherapy should be reserved for recurrences or distant metastasis.[4]

Gayathri BN, Suresh TN, Harendra Kumar ML, Arun HS[1]

Departments of Pathology, [1]Orthopedics, SDUMC, Kolar, Karnataka, India

Correspondence to:

Dr. Gayathri Nagaraj, E-mail: gayu_ub08@rediffmail.com

References

1. Huvos AG, Marcove RC. Chondrosarcoma in the young. A clinicopathologic analysis of 79 patients younger than 21 years of age. Am J Surg Pathol 1987;11:930-42.
2. Young CL, Sim FH, Unni KK, McLeod RA. Chondrosarcoma of Bone in children. Cancer 1990;66:1641-8.
3. Leerapun T, Hugate RR, Inwards CY, Scully SP, Sim FH. Surgical Management of Conventional grade I Chondrosarcoma of long bones. Clin Orthop Relat Res 2007;463:166-72.
4. Aprin H, Riseborough EJ, Hall JE. Chondrosarcoma in children and adolescents. Clin Orthop Relat Res 1982;166:226-32.

Access this article online

Quick Response Code:

Website: www.indianjcancer.com

DOI: 10.4103/0019-509X.176753