# Notas cortas

# Chondrosarcoma of the hyoid bone: Case report and review of the literature

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Chondrosarcoma is a malignant tumor that is rarely encountered in the head and neck. Head and neck chondrosarcomas account for only 1% to 2% of all chondrosarcomas (1). The etiology of chondrosarcomas is unknown. Most lesions arise from cartilaginous tissue or bone. The most common presentation is a slowly growing mass in an adult male, usually older than 40 years of age. Imaging studies commonly show a nonspecific mass. Histopathologic diagnosis can be difficult. Surgery is the mainstay of treatment, and achieves favorable results in low-grade tumors. Guidelines for postoperative therapy have not been clearly defined (2).

## CASE REPORT

A 61-year-old man had a left neck mass which had grown slowly over 2 months. On gross inspection it measured $3.4 \times 4 \times 2$ cm. Endoscopic laryngeal exploration evidenced light narrowing with normal surface. A computed tomography (CT) scan of the neck showed a 4 cm tumor in the hyoid bone (Fig. 1). Wedge resection of the lesion and radiation therapy with high megavoltage equipment were carried out. The patient received a dose of 5,000 cGy in daily fractions of 180-250 cGy. The patient has remained free of recurrence or metastasis 6 months after surgery.

Gross description showed that the tumor measured $3 \times 4.2 \times 2$ cm and was present mainly in the hyoid yet extended to the estilohyoid area. On section the tumor showed a lobulated margin with a brown-white cut surface and scattered cysts and cartilaginous areas (Fig. 2).

Microscopically, the tumor showed the typical features of a well differentiated chondrosarcomas (grade I) (3). The tumor nodules were separated by fibrous connective tissue. At the center of tumor, the small uniform tumor cells were arranged singly, whereas at the periphery moderate nuclear irregularity and increased cellularity were seen (Fig. 3).

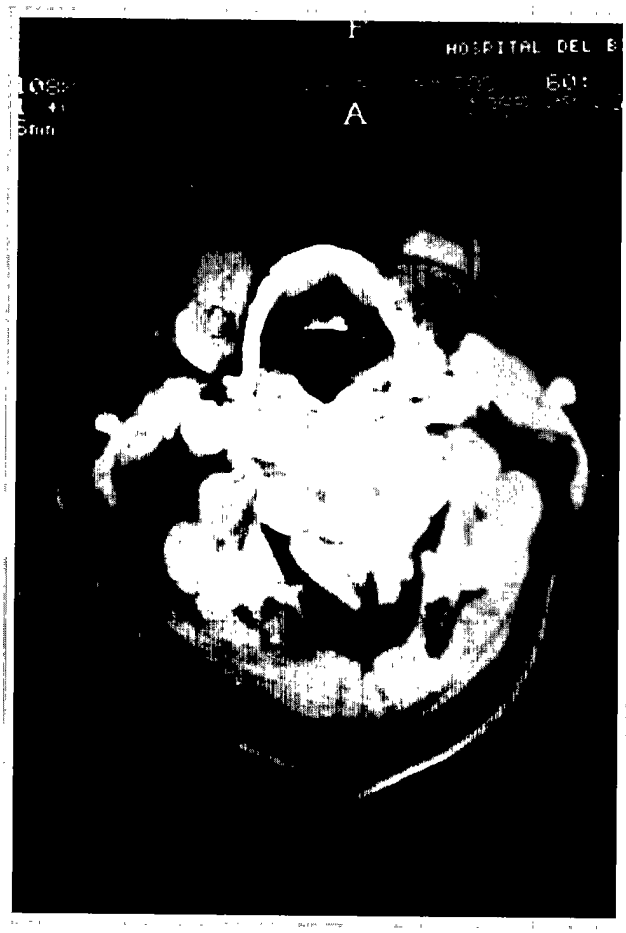


**Figure 1.** Computed tomography showed a mass adjacent to hyoid bone.

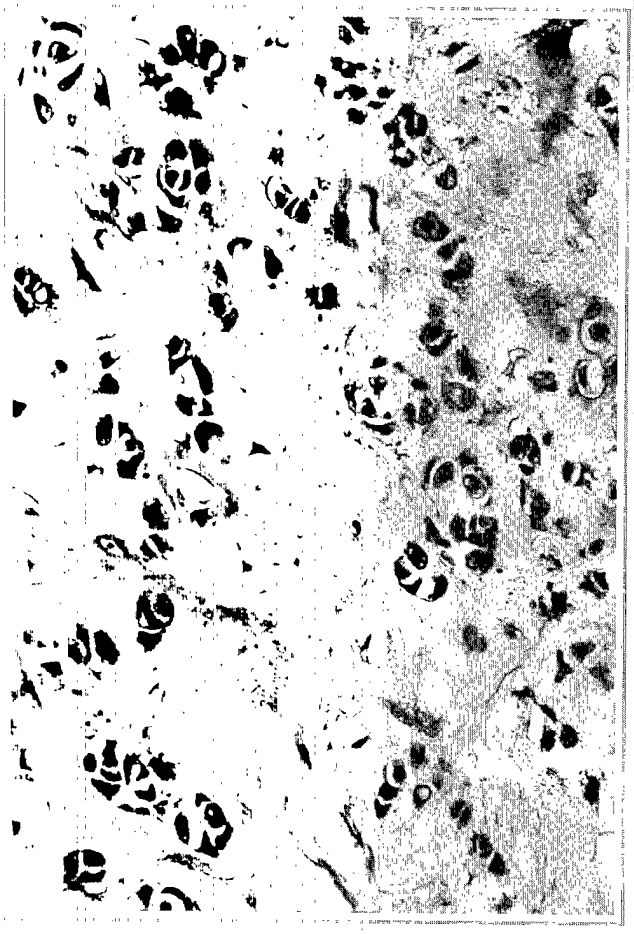

**Figure 3.** Well differentiated chondrosarcoma.

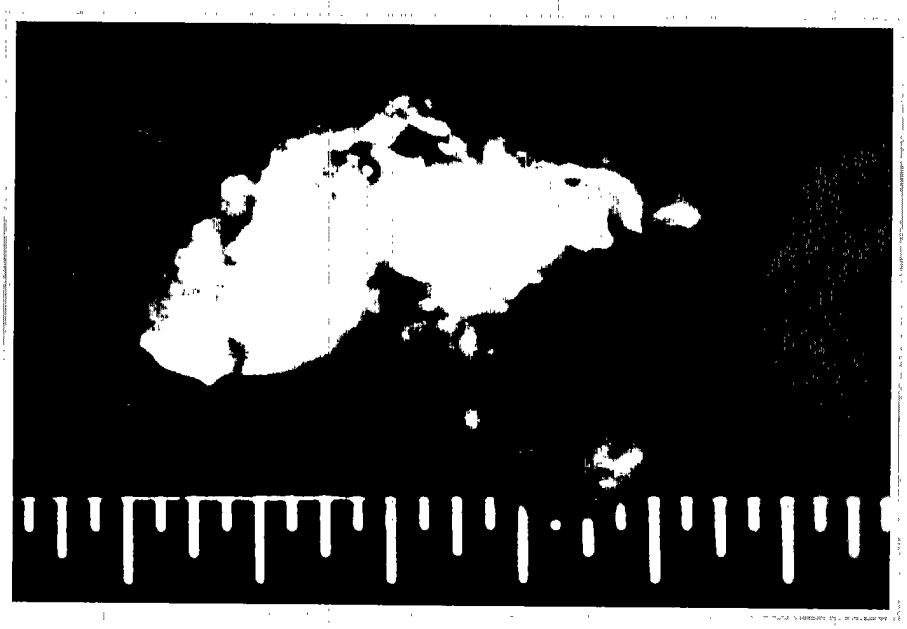

**Figure 2.** Lobulated tumor with white and yellow areas linked to hyoid bone.

Mitotic figures were rare and there was no tumor necrosis. The stroma was mainly chondroid, and myxoid areas were sparse. Focal extraosseous extension was seen in the tumor.

## DISCUSION

Head and neck chondrosarcoma is rare. In a recent review of 229 head and neck sarcomas seen at the UCLA between 1955 and 1988, 18 (8%) were chondrosarcomas, ranking fourth in incidence behind rhabdomyosarcomas (20%), fibrosarcomas (13%), and angiosarcomas (12%) (4).

The distribution of chondrosarcomas by site in the series by Mark et al. (2), which showed predominance of nasal cavity and paranasal sinuses, is not entirely consistent with the literature; other series frequently report higher incidence of cases arising from the laryngeal cartilage (5). However, in this series 2 cases were localized in the hyoid bone, which is very rare. English literature described 2 cases (2), while ours is the third case. Men and women are equally affected, although in some series there is a reported male (5) or female (2) predominance. The median age for head and neck chondrosarcomas is in the fourth decade of life. Clinical features of our case were similar to the other cases published (2).

Microscopically, chondrosarcoma can look so well differentiated that the aggressive potential behavior may be missed. Our case corresponded to a grade I chondrosarcoma. The series by Mark et al. (2) presented 9 out of 10 (90%) patients with low-grade chondrosarcomas. In this series hyoid chondrosarcomas were high-grade chondrosarcomas.

The 5-year survival rates for patients with grades I, II, and III chondrosarcomas in all anatomic sites are 90%, 81% and 43%, respectively (3). The 5-year survival rate for patients with chondrosarcomas involving the jaw and face is 40% to 60% (1). In our case the evolution is not representative.

The main treatment is wide surgical resection (6). Due to the locally invasive nature of sarcomas and the inherent anatomic restrictions in the head and neck which limit adequacy of surgical margins, local recurrence after surgery alone is a frequent problem. Given the problem noted above, adjuvant radiation therapy can be undertaken (2).

## REFERENCES

1. Vener Y, Rice DH, Newman AN. *Osteosarcoma and chondrosarcoma of the head and neck.* Laryngoscope 1984; 94: 240-242.
2. Mark RJ, Tran LM, Sercraz J, Fu YS, Calcaterra TC, Parker RG. *Chondrosarcomas of the head and neck. The UCLA experience, 1958-1988.* Am J Clin Oncol (CCT) 1993; 16: 232-237.
3. Evans HL, Ayala AG, Romsdahl MN. *Prognostic factors in chondrosarcoma of bone.* Cancer 1977; 40: 818-831.
4. Tran L, Mark R, Meier R, Calcaterra TC, Parker RG. *Adult sarcomas of the head and neck: Prognostic factors and treatment strategies.* Cancer 1992; 169-177.
5. Neel HB, Unni KK. *Cartilaginous tumors of the larynx: A series of 33 patients.* Otolaryngol Head Neck Surg 1982; 90: 201-207.
6. Burkey BB, Hoffman HT, Baker SR, Thorton AF, McClatchey KD. *Chondrosarcomas of the head and neck.* Laryngoscope 1990; 100: 1301-1305.