CHONDROSARCOMA OF THE NASAL SEPTUM: A REPORT OF AN UNCOMMON LESION.*†

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ABSTRACT.

Chondrosarcoma of the nasal septum is an uncommon lesion. Review of the English literature reveals only 14 cases. This paper reports an additional case observed in a Japanese series of seven cases. The clinical features are reviewed, and a most effective treatment with minimum side effects is organized by an interdisciplinary group of specialists in surgery, radiotherapy and regional chemotherapy.

Chondrosarcoma is infrequently encountered in the head and neck region and is uncommon in the nasal septum.[1-4] A review of the English literature showed reports of 14 cases.[3,5-14] Review of Japanese literature, including the present case, has produced seven cases[15-20] (Table I). Of the 21 cases, there are 4 cases in which biopsy of the lesions that were originally interpreted as benign later proved to be malignant.

In the present case, total resection of the tumor was performed in conjunction with pre and postoperative radiotherapy, and postoperative chemotherapy. Eight years after the initial therapy, the patient is well and has returned to social life free of recurrence or metastasis.

CASE REPORT.

A previously healthy 61-year-old man consulted an otorhinolaryngologist with the complaint of nasal obstruction for two years with intermittent epistaxis. During the past 4 months the patient had noticed a mass located over the right nasal tip and numbness of the left nasal tip. In the clinic, a biopsy of the left nasal cavity was reported as myxoma. He was referred to the Department of Otorhinolaryngology, University of Tokyo, July 4, 1974, for evaluation of the tumor in the nasal cavity, because the diagnosis of myxoma was viewed with suspicion.

Examination disclosed a nontender, hard mass about 2 cm in diameter along the right pyriform aperture. There was flattening of the right nasofacial fold. The mass was fixed to deep structures but not to the skin. There was paresthesia over the left nasofacial sulcus. The nasal bridge was deviated to the right. An ulcerative tumor filled the entire anterior part of the left nasal cavity. The right turbinates could not be seen through the anterior naris because of the distorted nasal septum. Posterior mirror examination of the nasopharynx showed total obstruction of the left choana by a tumor mass. The tumor appeared to originate from the left side of the septum without displacement of the septum. No lymph nodes were palpable. Results of the remainder of the physical examination were within normal limits. There was no history of proptosis, and extraocular movements were normal. Routine sinus films revealed a nasal mass that involved the left maxillary sinus. Erosion of the left lateral nasal wall was demonstrated (Fig. 1).

Three days before surgery, the patient was referred for preoperative radiotherapy. He received 4 Gy ^{60}Co to the left nose and maxillary sinus. On July 22, 1974, the tumor was excised through an incision along the gingivobuccal sulcus of both sides across the frenulum of the superior lip, under general anesthesia. A left Caldwell-Luc procedure demonstrated an edematous tumor resembling a myxoma in the left maxillary sinus. The tumor was resected in pieces. The main portion of the tumor was located in the nasal septum and left nasal cavity including the left middle and inferior turbinates, and extending into the left maxillary sinus. The right nasal cavity and right inferior turbinate were also involved. The left orbital floor was explored. Surround-

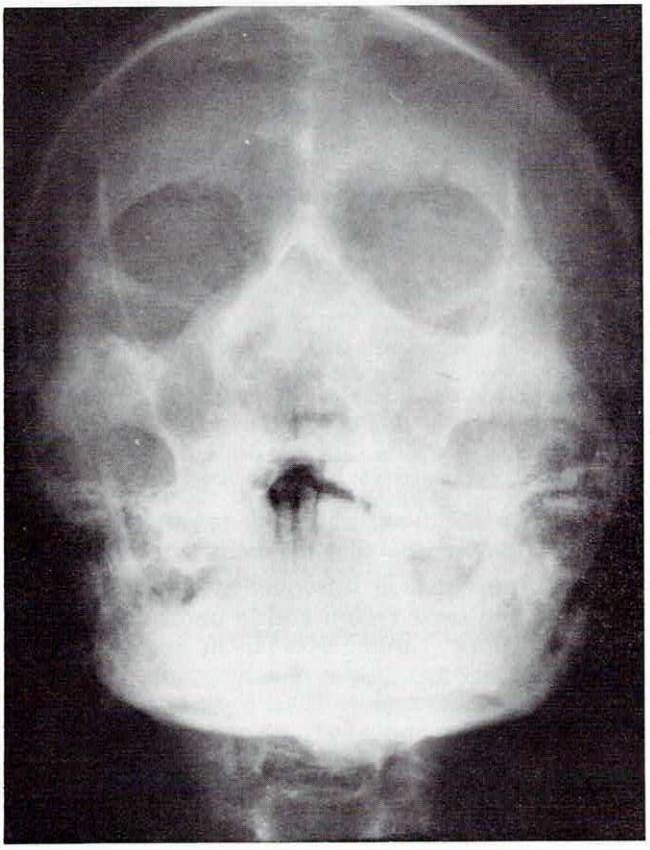

Fig. 1. Tumor in the nasal septum involving the left maxillary sinus.

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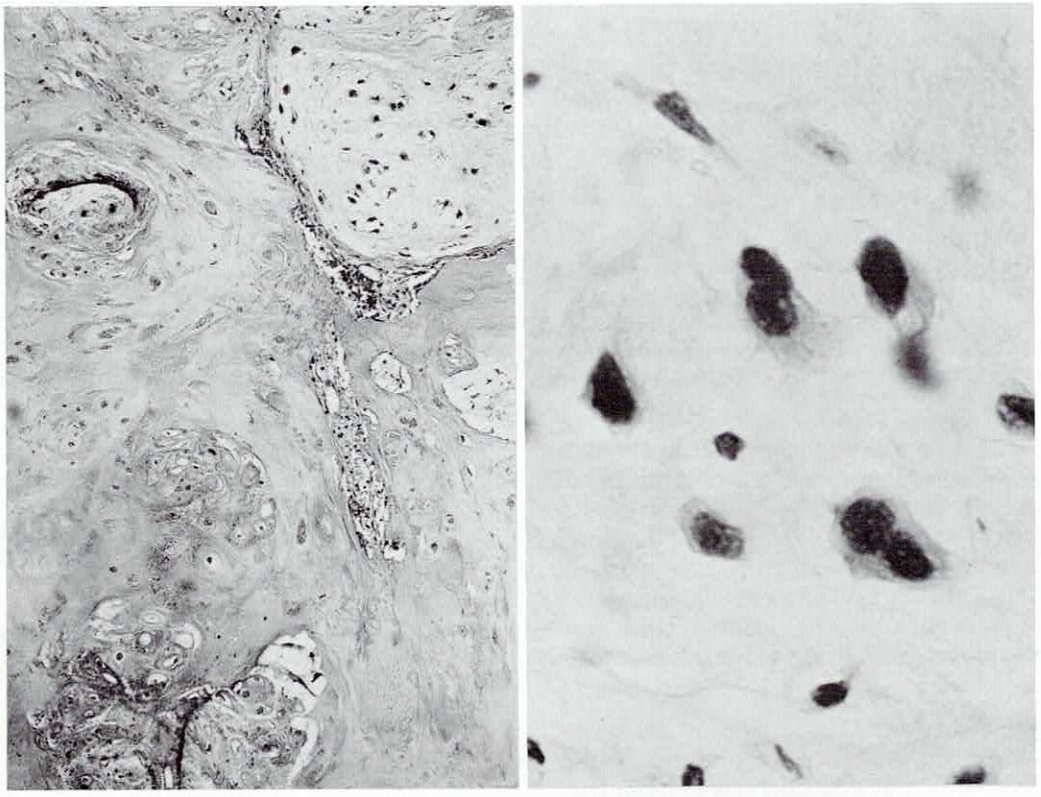

Fig. 2. Left, richly cellular neoplastic tissue with numerous plump cells, some with multiple nuclei (H-E stain, original magnification x25). Right, hyperchromatism of the nuclei, uni -binuclear giant cells and irregularity in the size of the cells and their nuclei (H-E stain, original magnification x770).

ing soft tissues and bones seemed to be less malignant than those of squamous cell carcinoma of the nasal cavity or paranasal sinuses. The right lateral nasal wall, sphenoidal sinus, and ethmoidal sinuses were free of tumor. The right ethmoidal sinus was filled with yellow pus. The surgical defect measured 6 x 5.5 x 4.5 cm in maximum dimension. The masses of multiple fragments were blue-grayish, non-encapsulated. From July 23 to July 27, he received 8 Gy ^{60}Co to the operative field as postoperative radiotherapy and 5-Fluorouracil ointment (total dose 40 mg) was administered on the operative field. The defect was not covered with graft.

Pathologic examination of the specimens disclosed a chondrosarcoma in the nasal septum. Focal areas of bone invasion were seen. Portions of this tumor showed myxomatous growth patterns (Fig. 2).

At 8 years follow-up, the patient is well and without evidence of recurrence, metastasis, visual disturbances, cosmetic deformity or disability of mastication.

COMMENT.

Chondrosarcoma is infrequently encountered in the head and neck region and is uncommon in the nasal septum.[1-4] Table I lists all the accepted cases of chondrosarcoma of the nasal septum. Of the 21 cases, 4 have lived more than 5 years. Yet, 5 year survival does not apply to these patients.

Analysis of the 21 cases yields the following data. The age range was from 16 years to 76 years with a mean of 48 years. Ten cases occurred in male, 10 in female patients, and 1 was not specified. When age was correlated with sex, the mean age for males was 50 and the mean age for females was 46. There was slight laterality with 8 left, 3 right, and 10 unspecified. The presenting symptoms depending on the site of origin of the tumor are summarized in Table II. The duration of symptoms was 3 months to 4 years with an average of 12 months. Nasal obstruction was the major symptom in 78% of patients (14 of 18). Six patients complained of a mass. Review of the reported cases of chondrosarcoma arising throughout the body shows that pain alone was the major symptom in 49% of 280 patients.[21]

The diagnosis of chondrosarcoma is established by biopsy but is not always easy. Of 21 cases, 2 cases were originally diagnosed as chondroma,[5,20] 1 as a chronic fibrocartilaginous hyperplastic process due to inflammation, without any evidence of malignancy,[7] and the present case as myxoma, respectively, but on subsequent course and termination each proved to be chondrosarcoma. Soboroff and Lederer[22] stated that in spite of a relatively benign histologic picture it is difficult to predict the clinical behavior of these tumors. Many with a benign histologic picture prove to be clinically malignant.

Gallagher and Strome[9] stated that several intranasal biopsies were necessary to confirm the diagnosis of chondrosarcoma. McCoy and McConnel[14] reported that on multiple biopsies of the septum, nasal cavity, and left maxillary sinus, chondrosarcoma was identified only on the nasal septum. McKenna and co-workers[23] also stated that portions, some-

TABLE I.

Author	Year	Age/Sex	Location	Treatment	Follow-Up
Kobayashi[15]	1917	40/F	Posterior	Unknown	Unknown
Lawson[5,6]	1952	76/F	Right	RT.	DOD 56 mo.
Jibiki[16]	1958	43/F	Posterior	Excision, RT.	Unknown
Kragh, *et al.*[1]	1960	44/F	Left	Excision	NED 55 mo.
Norikane, *et al.*[17]	1961	Unknown	Unknown	Excision	Unknown
Coyas[7]	1965	35/F	Posterior	Excision	Recur. 39 mo.
Takeuchi, *et al.*[18]	1966	46/M	Posterior	Excision, RT.	NED 24 mo.
Aretsky, *et al.*[8]	1970	57/M	Right posterior	Excision	Unknown
Gallagher, *et al.*[9]	1972	42/M	Left posterior	Excision. Chemo, RT. at recur.	NED 18 mo. DOD 54 mo.
Fu, *et al.*[3]	1974	42/M	Posterior	Excision	NED 45 mo.
Fu, *et al.*[3]	1974	16/F	Posterior	Excision	NED 3 yr.
Gray, *et al.*[10]	1977	56/F	Right	Excision	NED 12 mo.
Coates, *et al.*[11]	1977	44/M	Unknown	Excision	NED 19 yr.
Coates, *et al.*[11]	1977	44/M	Unknown	Excision. RT. at recur.	NED 20 yr.
Coates, *et al.*[11]	1977	33/F	Unknown	Excision	Recur. 19 mo.
				Excision at recur.	NED 5 mo.
Zusho, *et al.*[19]	1979	58/M	Left posterior	Excision, RT.	NED 12 mo.
Endo, *et al.*[20]	1979	71/M	Left	Excision	NED 10 mo.
Peppard, *et al.*[12]	1979	33/M	Left	Excision, RT.	NED. 14 mo.
Chattopadhyay, *et al.*[13]	1979	55/F	Left	Excision	NED 2 yr.
McCoy, *et al.*[14]	1981	59/F	Left posterior	Excision	NED 5 yr.
Nishizawa, *et al.* (present case)	1982	61/M	Left	Excision, RT., chemo.	NED 8 yr.

RT. - Radiotherapy; chemo. - chemotherapy; recur. - recurrence; NED - no evidence of disease; DOD - died of disease.

times major portions, of these tumors showed myxomatous growth patterns. Gallagher and Strome[9] reported that histological examination of several tumor sites was necessary because the malignant nature of the lesion might not be readily apparent in one site. A significant number of lesions originally interpreted as being benign later proved to be malignant. Fu and Perzin,[3] and Pritchard and co-workers[21] have pointed out that some chondrosarcomas are extremely well differentiated and the pathologist may have difficulty in separating these lesions from benign chondromas, especially in biopsy material. Chondrosarcoma were grouped into three grades on the basis of mitotic rate, cellularity, and nuclear size by Evans and co-workers.[24] They have stated in Grade 2 chondrosarcoma that the background in the more cellular areas tends to be myxoid rather than chondroid, although this is not invariable.

TABLE II.

Presenting Symptoms of Chondrosarcoma of the Nasal Septum.

Nasal	
Obstruction	14
Epistaxis	5
Rhinorrhea	3
Numbness	2
Anosmia	2
Mass	6
Pain	
Headache	3
Local	1
Facial	1
Tooth	1
Ocular	
Exophthalmos	4
Diplopia	2
Epiphora	2
Chemosis	1
Swelling of upper eyelid	1
Not stated	3
Total cases	21

Therapy consists of wide local excision, radiotherapy, chemotherapy and every day examination as to the local and systemic effect of therapy. Sato and co-workers[25] reported that the most effective treatment with fewest side effects is that organized by an interdisciplinary group of specialists in surgery, radiotherapy, and regional chemotherapy. In the present chondrosarcoma case, excision with pre and postoperative radiotherapy, with postoperative chemotherapy and every day examination, seemed to have efficacy.

Although rare in the nasal septum, chondrosarcoma must be considered in the differential diagnosis whenever a chondroma or a myxoma is encountered in this location.

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