NASOPHARYNGEAL MALIGNANT TUMOR

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A nasopharyngeal malignant tumor, while not the most frequent, is the most serious tumor of the pharynx. Located in a region designated by Carmody[1] as the epipharynx, which is almost unknown in otolaryngology, the fantastic pattern of initial symptoms diverts one's attention. Inaccessibility to easy examination and biopsy complicates the problem, and symptoms of the primary growth may be so overshadowed by metastases that patients undoubtedly die of widely disseminated malignant changes, while the actual site of the causative lesion in the epipharynx unsuspected.

Although not unknown to some of the earlier writers, recognition of such a tumor does not often appear in the literature before the present century. Bosworth[2] in 1889 collected reports of five cases of carcinoma and eighteen cases of sarcoma, and added one of his own.

An interesting discussion, including mention of growth characteristics of carcinoma, sarcoma and endothelioma and description of symptoms, differential diagnosis and surgical treatment by Miculicz, of Breslau, is found in the handbook by Heymann[3] published in 1899.

Jackson[4], in 1901, considered primary carcinoma of the nasopharynx a rare condition, since careful search of the literature for the previous 20 years revealed only 13 cases, to which he added one of his own. He stated that M. Schmidt did not find one such case in a total of 32, 997 patients with conditions referable to the nose and throat. Politzer[5], in his topic, made no appreciable reference to aural symptoms, which may be the first indication of a epipharyngeal malignant condition.

By contrast, the present day incidence of nasopharyngeal tumors is said by Martin[6] to be 0.2 per cent of all malignant tumors and more than 3 per cent of malignant lesions of the upper portion of the alimentary and the respiratory tracts.

Cases have been reported to occur in all decades of life, the greatest number occurring in persons between 41 and 60 years of age. The youngest patient mentioned in the literature was a 2 year old child (reported by Grottes)[7].

Males are affected more than females, in a predominance variously reported at 60 to 90 per cent.

A racial susceptibility has been noted in Orientals, especially the Chinese

and the Japanese, even in those born in foreign country. Gardham[8] stated that in Hong Kong 25 per cent of all surgical malignant lesions were in the nasopharynx.

Wang[9] of Chengtu, collected 36 cases of such growths in a rather short period, one third in patients between the ages of 25 and 35, only three of whom were female patients, 92 per cent were carcinoma of some type, and extension into the skull involved one or more of all cranial nerves except the fourth and eighth.

J. Hara[10] stated that most of these patients of nasopharyngeal malignant disease among the Chinese in U. S. A. originated from Canton province in South China, where there is also a higher incidence of the tumor as compared with that of North China.

The pathology of nasopharyngeal growths has been exposed to some changes in ideas with the years. Whereas early descriptions assumed the predominance of sarcoma over caricinoma, newly described histopathological growths have displaced the former ones. Those of us whose medical training began more than 35 years ago will remember large and small round cell and spindle cell sarcoma; now these terms have largely dissappeared. Added to the earlier accepted terms squamous cell carcinoma and lymphsarcoma, there now are lymphoepithelioma and transitional cell carcinoma. Some writers are loath to accept the term lymphepithelioma. Rarer forms include malignant plasmocytoma myxosarcoma, salivary gland adenocarcinoma, chordoma, craniopharyngioma and rhabdomyoma sarcomatodes.

Metastases occur almost universally to the cervical glands, in some instances before the primary nasopharyngeal lesion can be discovered. The palpable glands most commonly noted are immediately posterior to the angle of the mandible along the anterior border of the sternocleidomastoid muscle, and the posterior cervical chain may be involved early also. Later, metastases occur to the liver, lung and osseous system, especially the vertebrae.

Local extension toward the base of the skull occurs by contiguity rather than via lymph or blood channels. As Williams[11] and also Martin (cited by the Jacksons[12]) have noted, the most frequent location of the primary tumor in the fossa of Rosenmüller lies directly beneath the foramen lacerum; extension into the cranium by soft tissue continuity, a distance of not more than 1cm, permits extradural involvement of cranial nerves, often without erosion of bone. Horner's syndrome develops when there is local extension along the internal carotid artery and its investing sympathetic plexus in the foramen lacerum. Involvement of any or all of the cranial nerves may occur, most commonly of the sixth nerve (abduceus). Flynn[13] reported a case of transitional cell carcinoma involving all 12 cranial nerves, but the evidence pertaining to involvement of the first (olfactory) and the eighth (auditory) was not quite clear.

The symptoms of nasopharyngeal growths are such that one may be led astray, especially to the pathological character of the growth. Sarcoma produces more evidence of nasal obstruction and bleeding, whereas epithelial tumors are more apt to produce symptoms referable to the cervical glands, aural and cranial nerves. Recognition of symptoms will depend on an adequate history and careful examination.

Prof. T. Hoshino stressed the fact that diagnosis of adenoid hyperplasia as well as of malignant growths was often missed by failure to examine the nasopharynx; he preferred the mirror and Yankauer's speculum to the electric nasopharyngoscope.

Otolgia, stuffiness in the ear, conduction deafness and tinnitus caused by pressure on the pharyngeal orifice of the eustachian tube are common early symptoms. Furstenbery[14] noted changes in the tympanic membrane diagnostic of faulty ventilation of the middle ear.

Diagnosis of nasopharyngeal malignant growths will probably be made more frequently if the examiner keeps in mind the possibility of such a growth in the presence of suggestive symptoms, even though remote, as noted above. Visualization of the tumor requires a careful nasopharyngeal examination, often no small task. In adults, local anesthesia must be used if necessary, and in children general anesthesia is frequently essential to accomplish the desired result. Treatment of nasopharyngeal malignant disease consists of the use of radium, roentogen, diathermy and surgical operation.

Report of Cases

Case 1. —— K. A., a man aged 51, was admitted to our hospital on may 16, 1949, with the chief complaint of gradually increasing deafness on the left ear and severe trigeminal neuralgia.

The deafness began in April 1947; prior to this date the patient was perfectly well. The discomfort at first was not severe and then gradually became more severe, acompanied with tinnitus and feeling of stuffiness.

Because of the ear disturbance, the patient first visited an otolaryngological practitioner. The left eustachian tube had been inflated twice by a specialist without relief.

Three months prior to admission, he comlpained of nasal obstruction, profuse purulent nasal discharge and trigeminal neuralgia on the left. Ten days prior to admission, he noticed hoarseness. The past medical, family and social history was essentially normal.

Examination disclosed a tumor which bled on contact, located in the left fossa of Rossenmüller; evidence of involvement of the third, fifth, sixth, seventh and ninth cranial nerves on the left, and conduction deafness due to pressure on the orifice of the eustachian tube.

Biopsy indicated squamous cell carcinoma (Fig. 1). One week after admission, Gasseri ganglionectomy was performed, and then three weeks after, extirpation of the tumor by Hoshino's operation was performed.

The local lesion resolved, but the patient died eight weeks after from intracranial invasion and aspiration pneumonia.

Case 2. —— M S., a man aged 43, was referred to our hospital with symptoms of deafness on the left and a gradually increasing difficulty in swallowing on April 1, 1952. Late in

February fulness of the left ear and nasal obstruction was noted, accompanied with profuse purulent nasal discharge.

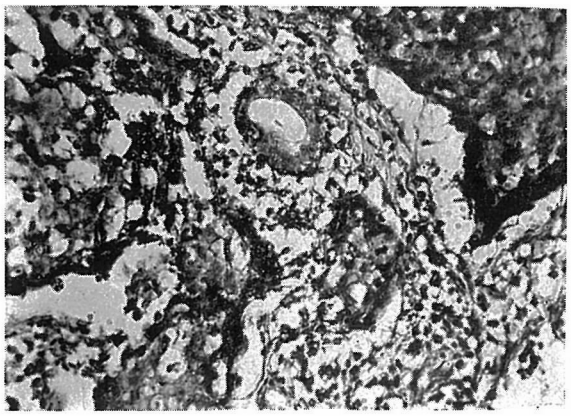


Fig.1. 200×.

One week prior to admission, he complained of deafness of the left ear and headache.

Inspection by anterior rhinoscopy showed polypoide degeneration of the nasal mucosa and hypertrophy of the anterior tips of the turbinate bodies on the right, so that the nasal airway was narrowed.

Posterior rhinoscopy revealed a rounded ulcerated mass filling almost the entire epipharynx. This was a firm solid growth.

There were two cervical glandular swellings on the right neck.

Examination of the cranial nerves disclosed the involvement of the sixth, seventh and ninth on the right. Biopsy indicated reciculo-sarcoma (Fig. 2).

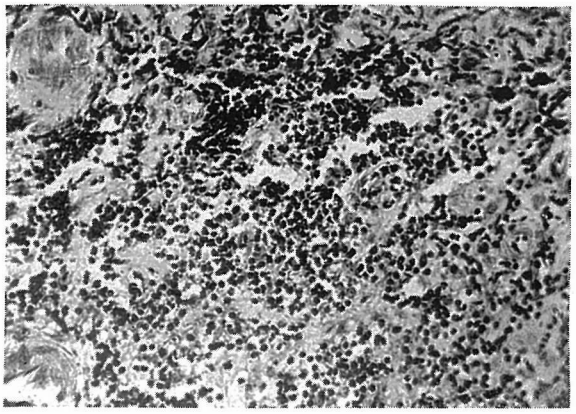


Fig.2. 200×.

Vigorous roentogen ray therapy has resulted in resolution of the growth and the cervical gland was no longer palpable, and later on extirpation of the tumor by Hoshino's operation was performed.

The patient is living now with no evidence of recurrence (sept. 1954).

Case 3. —— O. Y., a man aged, 69 was sent to our hospital with the complaint of deafness on the left, nasal obstruction and epistaxis on Nov. 12, 1952.

The deafness began In August 1952; later on it gradually became more severe, acompanied with slight tinnitus on the same side.

Late in September increasing nasal obstruction and profuse purulent nasal discharge were noted, and one week prior to his clinic visit, he complained of epistaxis.

The past medical, family and social history was essentially normal.

Inspection by anterior rhinoscopy revealed a bloody ulcerated mass located in the left fossa of Rossenmüller, so that nasal airway was narrowed.

Inspection of the pharynx to look for blood going down this avenue revealed the soft palate a little low and bulging especially on the left.

posterior rhinoscopy showed a round growth covered with ulcerating mucosa filling almost the entire epipharynx.

There were two palpable cervical glands on the left side.

The results of the cranial nerve examination were essentially normal.

Biopsy revealed sarcoma carcinomatoides.

The use of radium resulted in resolution of the tumor, and cervical glands were no longer palpable, but the patient died 11 months after from aspiration pneumonia.

Case 4.—— Y. N., a woman aged, 27 registered at our hospital on Nov. 7, 1952, because of deafness on the left side, nasal stuffiness and bloody discharge. She gave a history of having had otitis media duplex all her life.

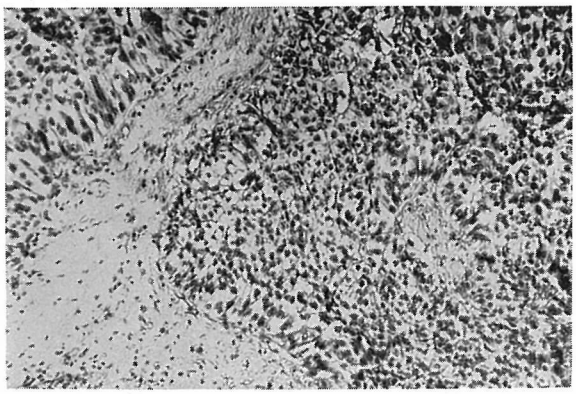
Late in September 1952 increasing purulent nasal discharge was noted accompanied with blood.

Three weeks prior to her registration deafness on the left ear and nasal obstruction began.

There was no palpable cervical gland, and a bloody ulcerated tumor was located in the left fossa of Rossenmüller, so that the nasal airway was narrowed.

Examination of the cranial nerves showed normal function.

Biopsy indicated squamous cell carcinoma (Fig. 3).



Eig. 3. 100×.

Roentogen ray and radium therapy resulted in resolution of the tumor, but the patient died six months later from intracranial metastases.

Summary

Nasopharyngeal malignant process, a disease entity formerly considered rare, is now reliably estimated to comprise about 3 per cent of all malignant growths of the head and neck. In spite of increased knowledeg available, the

condition is all too frequently overlooked; this situation is due to the bizarre pattern of symptoms and signs which diverts attention from the primary lesion, to difficulties in biopsy and unfortunately, to hurried and incomplete examinations.

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