# NASOPHARYNGEAL FIBROMA.

By DR HASSAN BEY SHAHEEN, Kasr-el-Ainy Hospital, Cairo.

IN June 1924 I published in this *Journal* a short paper based on the experience of 28 cases of nasopharyngeal fibroma. The present paper is based on the experience of 58 of these growths.

**Situation.**—The greater number of these growths arise from the basioccipital and basisphenoid. They may, however, take origin from any part of the base of the skull and in their growth follow the line of least resistance. They may extend backwards and downwards towards the pharynx or they may extend forwards and appear near or outside the nose. In their extension they implicate such structures that come in contact with them and send prolongations to invade the different recesses of the base of the skull.

**Size.**—The smallest growth in my series of 58 cases was in a child of 2 and was the size of a grape, while the largest was the size of a man's fist with prolongations into the sphenomaxillary fossa.

**Etiology.**—The origin of these growths is obscure. One or two theories have, however, been brought forward, but they do not give a satisfactory explanation of their origin. Sir St Clair Thomson, in his textbook on diseases of the nose and throat, says: "It has been suggested that their appearance depends on developmental irregularities at puberty," yet among my cases some were in very young children—one was in a boy of 2, one in a boy of 4, and one in a boy of 7. Ferrier believes that they are due to an anomaly in the development of the functions of the hypophysial system and to a deviation in function of the pharyngeal tonsil.

Though these growths are usually met with in the male, and on the left side of the nose, four of my cases were seen in females, and four were on the right side of the nose.

The most common age of patients suffering from these growths is between 15 and 25, but, as I said before, I met them in children of 2, 4, and 7, and I also met them in men of 48, 60, and 70 years of age.

**Pathology.**—The pure fibroma consists almost entirely of fibrous tissue rich in blood vessels with thin walls that are



https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

devoid of a contractile coat. Being embedded in dense fibrous tissue, the vessels do not contract when cut across. This explains the severe and often repeated hæmorrhage seen in cases where the growth has been incompletely removed. According to Moore, the growth has no capsule, but the late Dr Brady asserts that the growth has a distinct capsule formed of a firm layer of the pharyngeal aponeurosis which is pushed forwards by the underlying tumour during its growth and is intimately adherent to it, except where it is attached to bone. As a matter of fact there is only an outer covering of epithelium but there is no evidence of a proper capsule (see micro-photograph). Occasionally one sees evidence of inflammation near the tumour attachment. Such inflammatory changes are not detected within the substance of the tumour. Changes in the substance of the growth may, however, take place. There may be some cystic changes, myxomatous changes, or sarcomatous changes, or even carcinomatous changes. The accompanying microphotographs show the fibrous origin of the growth as well as the degeneration that later took place in its substance. I have not met with any fatty degeneration, though this has been said to occur. It is also stated that after 25 years of age the growth may undergo spontaneous involution and disappear. I have not met with any such case.

The growth, which generally has a broad basal attachment, may, however, be pedunculated, and there may be multiple growths (Thomson).

In their extension the growths may implicate the Eustachian tube, causing middle-ear deafness; the septum may be pushed to one side, producing pressure destruction; the sphenoidal sinus may be invaded by the growth and produce optic atrophy; or the maxillary antrum may be invaded, producing asymmetry of the face, and the pressure may sometimes produce ulceration in some of the large vessels, causing fatal hæmorrhage. This destructive peculiarity of these growths, even those that do not show any malignant changes, renders them clinically malignant. They do not, however, produce metastasis or secondary glands unless malignant changes supervene.

**Symptoms.**—Mouth breathing may be in some cases the only symptom. As the growth extends, other signs and symptoms set in. There may be headache, epistaxis, deafness, lacrimation, diplopia, asymmetry of the face, while the broaden-



https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

ing of the bridge of the nose and bulging of the eyes give the patient the characteristic frog-face appearance. The tumour may slough, producing septic absorption, while the severe anæmia from repeated hæmorrhages together with the fatigue and exhaustion as well as the auto-intoxication quickly and surely cause the early termination of the patient's life.

**Examination.**—External appearance.—A patient with a nasopharyngeal fibroma is usually anæmic and is a mouth-breather. There may be asymmetry of the face with bulging of the eyes. At or inside the external nares there may be a fleshy mass which is generally dark red in colour—often with some mucus or mucopus on its surface. When touched with a probe it bleeds easily, and a probe can usually be passed round it anteriorly.

On examination with the nasopharyngeal mirror a red, fleshy tumour is seen filling the posterior nares, and on digital examination it is found to have a fixed, hard base. The growth is smooth and fleshy, and is liable to bleed when touched by the finger. This predisposition to bleeding should always be taken into consideration when cutting a piece of the growth for examination.

**Prognosis.**—If untreated it means slow exhaustion and fatal end. Few of the cases are spared after 25 years of age, though, as I have shown before, I have met them in all ages up to 70. I, however, noticed that the older the patient the less the bleeding and the easier the case to deal with. Where there are malignant changes the case naturally takes a rapid course, while the symptoms are usually more severe.

**Differential Diagnosis.**—Though both nasal or antral polypi may produce nasal obstruction, depress the soft palate, and cause the voice to assume the dead nasal tone known as rhinolalia clausa, the patient does not usually show signs of severe auto-intoxication, epistaxis, or severe pressure signs. With the post-nasal mirror a polyp is seen to be of greyish colour, and on palpation it is soft and movable. There is no bleeding on palpation, and the polyp could easily be pushed forwards into the nose. Sarcomata may resemble fibromata, but the latter are more elastic to the touch. In sarcomata auto-intoxication, cachexia, and pressure symptoms are earlier and severer symptoms. In carcinoma metastasis and secondary glands may be detected, while the fœtor and severe cachexia and bleeding are early symptoms.



https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

**Treatment.**—The dread of treating these cases surgically is, according to my experience, overestimated. I have found it reported that Dr Robert Newenborn, writing in the *Zeitschrift für Laryngologie*, says that operations are more dangerous than the disease. He had eleven cases and operated on none. In my cases the mortality amounted to four—three died from post-operative shock and one died from meningitis. Now, with transfusion, it is hoped that death from shock will in future be appreciably reduced. I give here the history of the case that died from meningitis:—

A boy, aged 18, suffered from nasal obstruction and bleeding for years. He was anæmic and emaciated. There was a fleshy growth filling the nose from the pharynx posteriorly to the anterior nares. The growth had a broad attachment to the basioccipital and basisphenoid. The day before the operation he had influenza and the operation had therefore to be put off. A week later he was operated upon. A Moures lateral rhinotomy was made and the tumour completely removed. The patient did well till the third day, when he developed signs of meningitis. He died on the fifth day.

I believe that the influenza bacillus must have been lurking in the nasal passages and the operation, opening up channels for infection, brought on the fatal meningitis. Had this patient been put off for a few weeks, I have no doubt he would have recovered from the operation.

In my early cases I did a preliminary laryngotomy, split the soft palate, and removed the growth. The soft palate was then sewn up and the laryngotomy tube removed. This method is advisable only where the tumour attachment is restricted to the posterior part of the nose. Where there are anterior prolongations this method alone is inadequate. Another objection to this method is the difficulty in obtaining proper healing of the split soft palate. In the majority of cases this becomes septic and several repairs become necessary. Small growths could easily be taken out through the external nares. The basal attachment is detached with a pair of scissors, and with a pair of Luc's forceps introduced through the nose the growth is wrenched out. To leave any of it behind means sure recurrence. It is therefore inadvisable to cut away the growth piecemeal, as is suggested by Dr Watson Williams in his book on diseases of the nose. Such a procedure will also produce uncontrollable bleeding and subsequent sepsis. Mr



https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

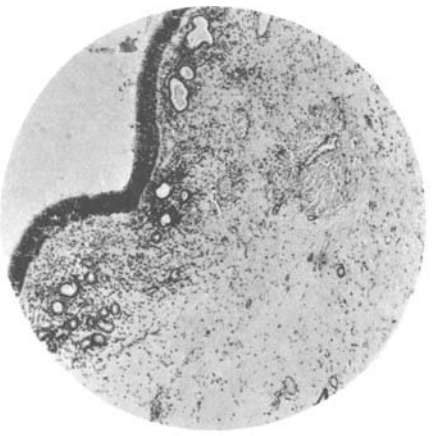
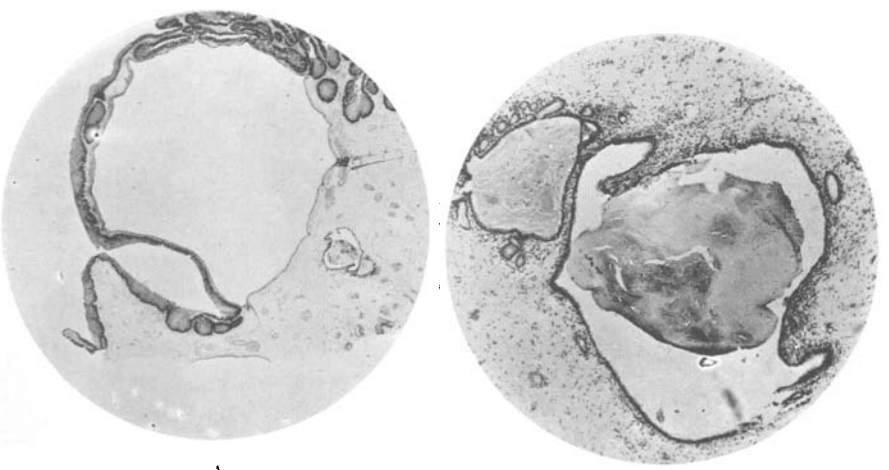


Fig. 1.—Pure fibroma and epithelial outer covering, and showing myxomatous changes.



A B

Fig. 2.—Fibroma, with cystic changes (A, B).

https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press



Fig. 3.—Fibroma, with sarcomatous changes.



Fig. 4.—Fibroma, with carcinomatous changes.

https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

Herbert Tilley reported a case where the growth was removed three times, and cure was only obtained when a prolongation into the antrum, occupying the whole of the posterior wall, was recognised and removed. Among my cases, two invaded the antrum—one in a man of 50, where the whole antrum was occupied by the growth, and the other in a man of 70, where a prolongation of the growth invaded the antrum. None of the pure fibroma growths came back with recurrence. A woman with a growth showing sarcomatous changes came back with recurrence three years after the first operation.

When the growth is of a large size, a Moure's lateral rhinotomy incision gives the best access. The base of the tumour is first attacked from the mouth. A big pair of blunt-nosed scissors curved on the flat is used to snip off the growth from the basal aponeurosis. The blunt end of the scissors is used as a wedge to lift up the tumour from its attachment. The anterior part of the growth could now be separated by means of an ordinary periosteal elevator, and taking a good grip of the growth with a strong pair of gland forceps it is pulled out. There have been several special instruments devised for this operation, but they are not essential. When the growth is completely out there is usually a gush of blood, but, like that after tonsil enucleation with the guillotine, it soon stops. As a prophylactic I give a few days before the operation a mixture made of calcium chloride, bicarbonate of soda, syrup, and water, and after operation one might give an injection of hæmoplastin or of coagulin ceba.

When dealing with the base of the tumour, it may facilitate matters if the practice of passing a catheter through the nose and over the palate to expose the growth were to be adopted. This method could only be used where the growth is small and the other side of the nose is patent.

To abolish bleeding Brady passed a Maitland's clamp over the carotid, while Chevalier Jackson tied the artery. I have, however, not found this to be necessary. The operation, in the majority of cases, takes but a few minutes (5 to 15).

One may, however, meet with cases where an operation, through exhaustion and other causes, is considered inadvisable. Such cases should be treated with X-rays, diathermy, or radium. Some American surgeons have, however, adopted these means in dealing with all cases of nasopharyngeal fibroma. It seems to me that it would be extremely difficult adequately to apply



https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press

such agents were the tumour to be of extensive attachment, for I cannot conceive how one can get at it completely in its ramifications in the various recesses of the base of the skull.

The method of using caustics, like the piecemeal operation, is only mentioned to be condemned. The inflammatory process with its accompanying ulcerations and bleeding, added to an already exhausted and cachectic patient, does not help to relieve the patient's misery.

The anæsthetic I usually use is chloroform.

Rectal ether might prove a useful agent were it not for the severe congestion that it produces in the face of the patient.

In conclusion I wish to thank Drs Anis Bey Onsy and Basili Farag of the Public Health Laboratories for examining the growths and making microphotographs for me.



https://doi.org/10.1017/S0022215100034721 Published online by Cambridge University Press