SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

FRACTURE OF THE NASAL BONES AND EPISTAXIS

BY

W. M. MOLLISON, M.Ch.

Fracture of the nasal bones is always due to direct violence and is usually a simple one. The line of fracture is either at the junction of the nasal and frontal bone, or, much more often, near the free end of the nasal bone. There may be no displacement and no disfigurement beyond extensive bruising, and the fracture may only be discoverable by x-ray examination. The whole nose may be displaced towards one side or may be depressed. In this case replacement is undertaken under general anaesthesia. Walsham's forceps are useful here, though any blunt flat instrument will serve; this or one blade of the forceps is introduced into the nose to correct the deformity; alternatively, the blades of the forceps are placed in the nostrils and the nose forcibly straightened. This method has the advantage of straightening the septum, too, if it is involved. A frequent result of blows on the nose is effusion of blood between the septum, which may be fractured, and its perichondrium—the so-called haematoma of the septum. Treatment is dealt with under the heading of epistaxis. Fracture of the nasal bones may be compound; care must here be taken with skin wounds to avoid subsequent infection and possible necrosis.

Complicated fractures are becoming more common, as Professor Cairns has pointed out, on account of car and aeroplane accidents. Owing to the great violence connected with these accidents not only are the nasal bones fractured but the anterior fossa of the skull may be involved. If the dura mater is damaged cerebrospinal fluid may leak through the nose or into the subcutaneous tissues. In either event the position of the patient is one of great danger from infection.

Epistaxis

The commonest form of epistaxis, or bleeding from the nose, is that known as "spontaneous"; it is especially frequent in children and young adults. In general it is of small account, but it is always a great inconvenience, since it occurs without warning and interferes with work or social activities. It often stops within a few minutes, but it may continue for an hour or more and in rare instances be so profuse as to endanger life.

The cause of spontaneous epistaxis is not known; it is due to the giving way of the wall of a small vessel on the anterior part of the septum nasi. It may be actually started by blowing the nose or by scratching, but often the bleeding comes on without any apparent reason. There is some evidence that it is more prone to occur at the time of the menstrual periods; indeed, the epistaxis has been considered as vicarious menstruation. The predisposing factors to epistaxis are high blood pressure, albuminuria, arteriosclerosis, mitral stenosis, and some anaemias.

AETIOLOGY

The onset of acute infections—for example, measles, influenza, and particularly those due to haemolytic

streptococci—is frequently accompanied by epistaxis. There are many other causes, some local and others general; these are here grouped more or less in order of frequency.

1. *Traumatic*.—Blows on the nose; foreign bodies in the nose; fracture of the nose—nasal cartilage or bones; post-operative—reactionary and secondary bleeding.

2. *Local Nasal and Nasopharyngeal Diseases*.—Diphtheria of nose; pneumococcal rhinitis; lupus. *New growths*. Malignant: Carcinoma, either of the nasal wall or of the paranasal sinuses ulcerating into the nose; carcinomatous polypi; sarcoma of the nasal lining; melanotic sarcomatous polypus. Innocent: Bleeding polypus of the septum; nasopharyngeal fibroma; both rare.

3. *Osler's Disease*.—This disease, while rare, is often familial. The lesions are small circumscribed tumours of the blood vessels, affecting the skin, mucous membrane, and internal organs. The little nodules consist of dilated capillaries without elastic tissues or muscle, often having only a single layer of endothelium. These nodules may occur in the nose, generally on the septum. If one of them is destroyed by cauterization fresh crops appear round the destroyed nodule and further bleeding occurs; removal of the whole of the septum and its mucous membrane has therefore been suggested. This stops the bleeding but leaves crusting of nose. The bleeding from these nodules is easily stopped by the dilating bag described below.

Treatment

Treatment consists essentially in dealing with the cases of *spontaneous epistaxis*, since all the other cases demand special treatment and are beyond the scope of these notes.

Cases may be divided into two classes: (a) emergency cases in which the haemorrhage is severe or profuse; (b) ordinary recurrent cases in which treatment is prophylactic, to prevent future attacks.

"EMERGENCY" EPISTAXIS

The patient should keep the head erect so far as possible, to prevent blood running down the throat. The quickest and most efficient way to stop the bleeding is by the use of a Cowper Rose bag. This consists of a thin catheter with a rubber finger-stall attached in such a way that the eye of the catheter is inside it: air blown into the catheter will inflate the finger-stall, and a tap on the end of the catheter will keep it inflated. Smear with petroleum jelly, the deflated instrument is pushed into the nose, inflated, and left *in situ* for some hours if necessary. Pressure is thus exerted on all parts of the mucous membrane, stopping bleeding efficiently and painlessly. This is the most reliable method of dealing with an emergency epistaxis: patients and practitioners would be spared much anxiety if one of these bags were always available. An alternative method is to plug the nose with ribbon gauze, either plain or impregnated with adrenaline or with "stryphon" powder; a good light is very helpful, and the gauze should be placed first along the floor and then built up on this to fill the nose. This procedure is apt to be painful and to damage the delicate nasal mucous membrane.

Very occasionally bleeding occurs from so far back that the blood runs down from the posterior nares. Should the inflated Rose's bag fail to control the bleeding a plug may be placed in the posterior nares; this procedure, however, should only be used as a last resource, since it is so painful. A thin rubber catheter smeared with petroleum jelly is passed through the bleeding side of the nose till it can be seen in the pharynx; it is then drawn through the mouth and a strong silk thread fastened to it so that when the catheter is withdrawn from the nose this silk thread takes its place. A small piece of rubber sponge (or a small mass of gauze) is fastened to the "mouth" end of the silk and carefully guided under the soft palate as the silk is pulled out of the nose, the sponge thus being firmly but gently fixed in the posterior nares. This procedure can be combined with plugging of the nares. To avoid infection of the middle ear via the Eustachian tubes the post-nasal plug must not be left in for more than twelve hours. Hydrogen peroxide (2½ to 5 vols. per cent.) is sometimes very useful in stopping haemorrhage; a strip of narrow gauze soaked in the solution is packed into the nose and left for some time.

SPONTANEOUS RECURRENT EPISTAXIS

In the majority of cases bleeding arises from the anterior part of the septum, the so-called Kiesselbach area. Between attacks the mucous membrane of the septum may appear almost normal; in order to discover the origin of the bleeding the mucous membrane should be gently rubbed with a wooden probe carrying some wool; this procedure often starts the bleeding. A small flattened pledget of wool moistened with adrenaline chloride 1 in 1,000 and cocaine 10 per cent., in equal parts, is then applied to the bleeding area and kept in position by pressing the ala nasi inwards for a few minutes. The bleeding spot can then be touched or scorched with a flat cautery point at dull-red heat; alternatively, a drop of pure carbolic acid on wool may be used or a bead of solid silver nitrate fused on to a probe be applied.

In some cases the bleeding-point is found on the floor of the nose; in others bleeding is from a vessel running upwards immediately next the muco-cutaneous junction on the septum; in this case it is difficult to avoid pain through overheating the skin. To prevent this, flat flakes of wool moistened with water may be arranged on the skin before cauterization. In many cases of epistaxis in persons over 50 and in those whose blood pressure is high, the bleeding, though profuse and sometimes alarming, is no bad thing, and it is often noticed that the pulse of these patients is full and of moderate rate even after some hours of epistaxis. The same remark applies to those with albuminuria or with chronic nephritis.

Traumatic Epistaxis

Even slight blows on the nose may cause epistaxis. The bleeding ceases spontaneously as a rule; but if it persists it must be treated on the same lines as "spontaneous" epistaxis, described above.

As well as the immediate epistaxis a blow, commonly in children the result of falls on to the face, may produce an effusion of blood between the mucoperichondrium and the cartilage of the septum, the so-called haematoma of the septum which causes bilateral swelling of the septum, and therefore obstruction to nasal breathing.

TREATMENT

This consists in incising the swollen mucous membrane over the septum: in adults, under local cocaine anaesthesia; in children, under general anaesthesia—for example, ethyl chloride. Since the haematoma invariably suppurates, pus will be evacuated unless operation is performed shortly after the accident. If the haematoma is not evacuated there is a considerable risk of necrosis of the septal cartilage and subsequent "saddle" deformity of the nose.

Foreign Bodies

The epistaxis caused by the presence of a foreign body is mild, and is accompanied by unilateral muco-purulent nasal discharge. Removal of the foreign body is the appropriate treatment. In infants this can quickly be done without an anaesthetic; older children may need short anaesthesia. The child is laid flat on a couch wrapped in a blanket and the head is held rigid. A straight rod—a director serves well—is passed along the floor of the nose and, when beyond the foreign body, is levered upwards and slowly removed, bringing the foreign body with it.

In severe accidents to the nose involving the nasal bones or frontal sinuses and ethmoids and the anterior fossa of the skull, bleeding may be accompanied or followed by discharge of cerebrospinal fluid. The only treatment for this condition consists in preventing infection from entering from the nose; apart, therefore, from lightly plugging the nostrils with wool, active local treatment must be avoided.

Perhaps the most alarming epistaxis is that of acute haemolytic streptococcal infection of the upper respiratory tract: so severe and persistent is it that blood transfusion may be required, and indeed is probably the best treatment. The bleeding is especially embarrassing if an anaesthetic is needed for an operation—for example, on the mastoid—since it may recur or continue during administration of the anaesthetic.

INTERNATIONAL SOCIETY OF SURGERY

Vienna, September, 1938

The German Surgical Society, to which most of the Austrian members of the International Society of Surgery belong, is at present actively engaged, in full collaboration with the Viennese Committee, in ensuring the success of the Society's congress, which is due to take place in Vienna from September 19 to 22. The sessions will be held in the "Konzerthaus," where radio-telephonic service is to be installed so as to ensure that everyone in the audience may hear the various speakers in the language of choice.

Reports on the following subjects will be discussed: Surgical treatment of hypertension, bone grafts, and surgical treatment of pulmonary cysts and tumours. Nearly two hundred speakers have already signified their intention to participate in the discussions.

On the occasion of this congress the Messageries Maritimes are organizing a cruise, which will leave Marseilles on September 4, and will give surgeons the opportunity to participate in operative demonstrations at Naples, Athens, Istanbul, Odessa, Bucarest, and Budapest. The cruise is due to reach Budapest by September 18, and arrival in Vienna is scheduled for 5.25 p.m., on that day. The same evening the Viennese surgeons are organizing a visit to the "Kursalon Stadtpark." Travel arrangements for British visitors are in the hands of Messrs. Thomas Cook and Sons.