SERIOUS EPISTAXIS

By G. N. BARKER (Cheltenham)

THE vast majority of cases of epistaxis respond to the usual local measures employed, and it is seldom that cause for anxiety occurs. In the last two years I have had two cases which were uncontrolled by packing and were so severe that recourse was made to ligation of the external carotid artery. As both cases recovered it appeared to me to be a justifiable procedure. On looking up the available literature to see if the indications for surgical intervention were paralleled, I found that relatively few cases have been reported. The details of my two cases are as follows :

Both occurred in young adults following injury to the region of the external nose, and in neither case was there a history of serious illness in the past or tendency to undue or prolonged hæmorrhage following injury.

The first case was that of a farm-worker who was hit on the bridge of the nose by a hayfork. Epistaxis from the right side occurred at the time of the accident but ceased spontaneously. During the next five days recurrence was severe, and part of this time was spent in the local Cottage Hospital with the nose packed anteriorly and posteriorly. The hæmorrhage persisted in spite of the packing, and so he was transferred to the Department at Cheltenham. I found the nose to be effectively packed, but the hæmorrhage still continued. I removed the packs, but was unable to see the bleeding point owing to a septal deflection, but the hæmorrhage was definitely arterial in type and high up and posteriorly in the right nasal cavity. Both clinically and radiologically there was no evidence of bony injury. The patient's general condition was fair, his blood pressure was 116/60, hæmoglobin 40% and red blood corpuscles 2,680,000. I replaced the anterior and posterior nasal packs, but in spite of what I believed to be efficient packing the hæmorrhage recurred freely on the two succeeding days, and on the third day after admission his condition could only be described as grave. As the hæmorrhage was still continuing, the right external carotid was ligated just above the bifurcation that same evening under general anæsthesia (O. E. J. McOustra and G. N. Barker), and a drip transfusion was started in the theatre and continued in the ward. There was no recurrence of the hæmorrhage following removal of the packs the next day, and the patient's convalescence was uneventful although prolonged.

The second case was a female, and was similar except that there was a definite fracture and displacement of both nasal bones, although the hæmorrhage originated solely from the right nasal cavity. In addition, the patient was five months pregnant, but this factor produced no complications, either at the time or subsequently. Ligation of the external carotid just above the bifurcation was performed (J. S. Robinson and G. N. Barker). A slight hæmorrhage

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followed removal of the packs the next day, but there was no subsequent recurrence and convalescence thereafter was uneventful.

It is seen that both cases had a successful termination, and it would appear that the surgical intervention did play a part in causing cessation of the hæmorrhage. It occurs to me, however, that there are several debatable points, and to illustrate these I give a brief summary of two reported cases :

The first[10] was a case of severe epistaxis following fracture of the nasal bone and nasal process of the maxilla, and terminated fatally. At post-mortem examination the source was found to be a ruptured ethmoidal artery.

Comment. As the severity of the hæmorrhage precludes any exact diagnosis of its origin during life, then recourse to ligation of the external carotid artery must always be regarded as somewhat of an experimental procedure, as although this vessel is responsible, *viâ* its sphenopalatine branch, for the major portion of the arterial supply to the nose, it is quite evident that ligation would have no effect on the ethmoidal arteries, which are branches from the internal carotid artery, and in the case reported above, the suggestion made of trans-orbital ligation of the anterior ethmoidal artery is the only feasible plan.[10]

The second case[9] was one of traumatic nasal hæmorrhage requiring ligation of the external carotid artery, but hæmorrhage recurred on the fifth and seventh post-operative days. The packs were then left in position for ten days and transfusions given, following which the patient made an uneventful recovery. The reporters of this case comment that the re-establishment of the circulation from the opposite external carotid artery was evidenced by the recurrence of the hæmorrhage from the nose on the fifth day after ligation, and state that had it been found necessary, ligation of the external carotid artery on the opposite side should have been performed.

Comment. I feel that it is fair to comment here that whereas the recurrence of the hæmorrhage was probably due to re-establishment of the circulation, one cannot exclude the possibility of the source of the hæmorrhage being in whole or part one of the ethmoidal arteries, and that cessation was either spontaneous or aided by the prolonged nasal packing and transfusion.

These two cases illustrate the points I wish to make—namely that although ligation of the external carotid artery, to judge from the reported cases, is a justifiable procedure and likely to be crowned with success in many cases, it will not influence hæmorrhage from the ethmoidal arteries or those cases where the circulation is rapidly re-established.

Some observers [3, 4, 5], have discussed the arrest of severe nasal hæmorrhage, and whilst conceding the practicability of ligation of the external carotid artery in these cases, maintain that it is not sufficiently reliable because of the efficient collateral circulation in this area. They hold that transantral ligation of the internal maxillary artery is more effective, and quote cases to support their contention that it affords an opportunity to cut off the arterial supply as close as possible to the site of the hæmorrhage. Personally I have not had an opportunity of using this method of ligation of the internal maxillary artery, which from the cases reported appears very successful, but my investigations make it clear that a good deal of dissection practice is necessary to achieve the speed necessary in these exsanguinated cases.

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Summary

Two cases of nasal hæmorrhage necessitating ligation of the external carotid artery are described. The alternative method of transantral ligation of the internal maxillary artery is on theoretical grounds likely to be more efficient, but would appear to present certain technical difficulties.

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