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Severe Superior Epistaxis Controlled by Clipping the Anterior Ethmoidal Artery : Report of a Case

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ABSTRACT. The case of a 40-year-old woman in whom severe superior epistaxis was controlled by clipping the left anterior ethmoidal artery is reported. The patient suddenly developed an uncontrolled epistaxis, and was brought to our hospital by ambulance. Though a Bellocq's tampon was left in place for seven days, severe superior epistaxis recurred. Therefore the left anterior ethmoidal artery was clipped with self-locking hemostatic clips using an external ethmoid incision under local anesthesia, after which the symptom became inactive.

Based on this experience, hemostasis of epistaxis in our division with special reference to clipping of the anterior ethmoidal artery is discussed.

Key words : Epistaxis — Superior epistaxis — Artery ligation — Anterior ethmoidal artery

Generally, the most common point of epistaxis is Little's plexus on the anterior nasal septum. It is easy to control bleeding in this point by anterior packing, chemical cauterization or electrocautery. But posterior and superior epistaxis cannot be controlled by such procedures. Therefore, it is necessary to use a Bellocq's tampon or ligate arteries.

This paper reports a case of severe superior epistaxis controlled by clipping the anterior ethmoidal artery and discusses the hemostasis of epistaxis in our division.

CASE REPORT

The patient was a 40-year-old woman. About 11 months ago, transantral ligation of the left internal maxillary artery was performed for the purpose of hemostasis of posterior nasal bleeding in our division. The symptom was inactive during and after the operation.

On December 15, 1983, however, she suddenly had an uncontrolled epistaxis at about 8:00 a.m., became unconscious temporarily, and was taken to the Department of Emergency Medicine of our hospital by ambulance.

On admission, pulse rate was 84 per minute, blood pressure was 90/50 mmHg and conjunctivae were slightly anemic. Her nose had been bleeding continually.

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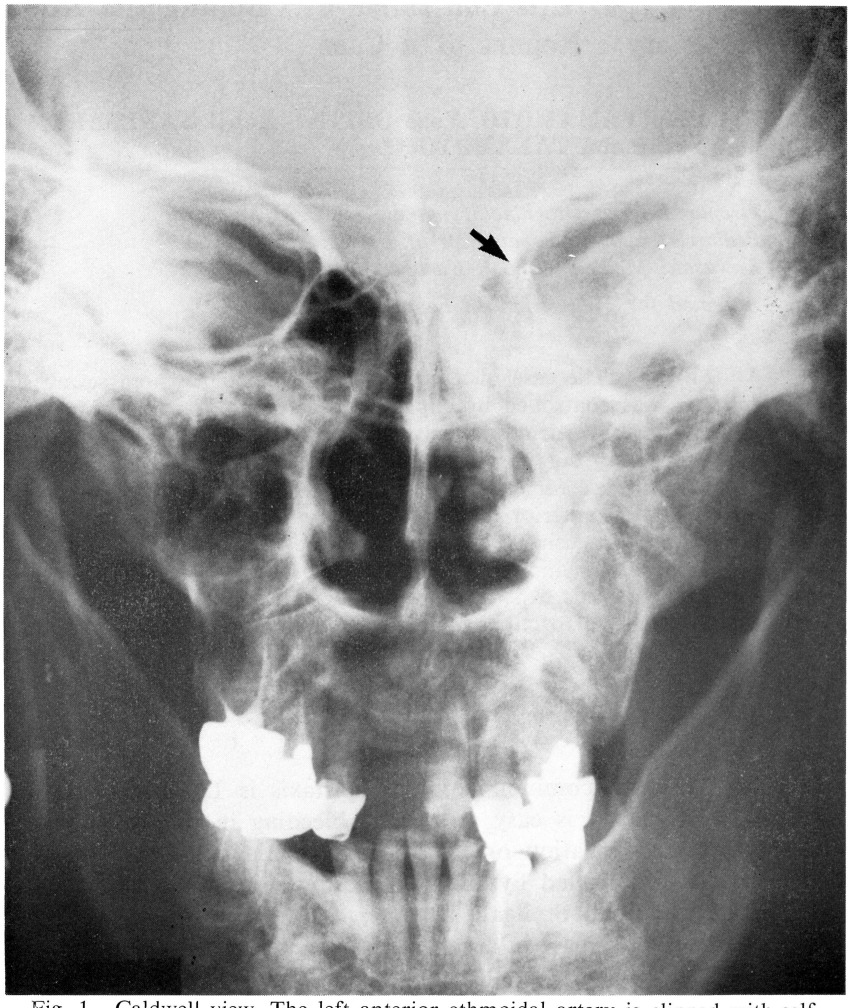

Fig. 1. Caldwell view. The left anterior ethmoidal artery is clipped with self-locking hemostatic clips (arrow).

Laboratory findings on admission were as follows : RBC, $364\times10^4/mm^3$, Hb, 10.8g/dl, Ht, 31.7%, WBC, $16900/mm^3$, Platelet, $21.3\times10^4/mm^3$, ESR, 23 mm (60 min), 60 mm (120 min), PPT, 10.7 seconds and APTT, 27.2 seconds.

Despite the use of a Bellocq's tampon with hemostatic agents such as fibrin glue and oxidized cellulose for seven days, severe superior epistaxis recurred. On December 23, 1983, the left anterior ethmoidal artery was clipped (Figs. 1, 2, 3) and the problem was immediately and completely resolved.

DISCUSSION

(1) Anterior Epistaxis

The most common point of epistaxis is generally Little's (Kiesselbach's) plexus on the anterior nasal septum, and it is easy to control the bleeding

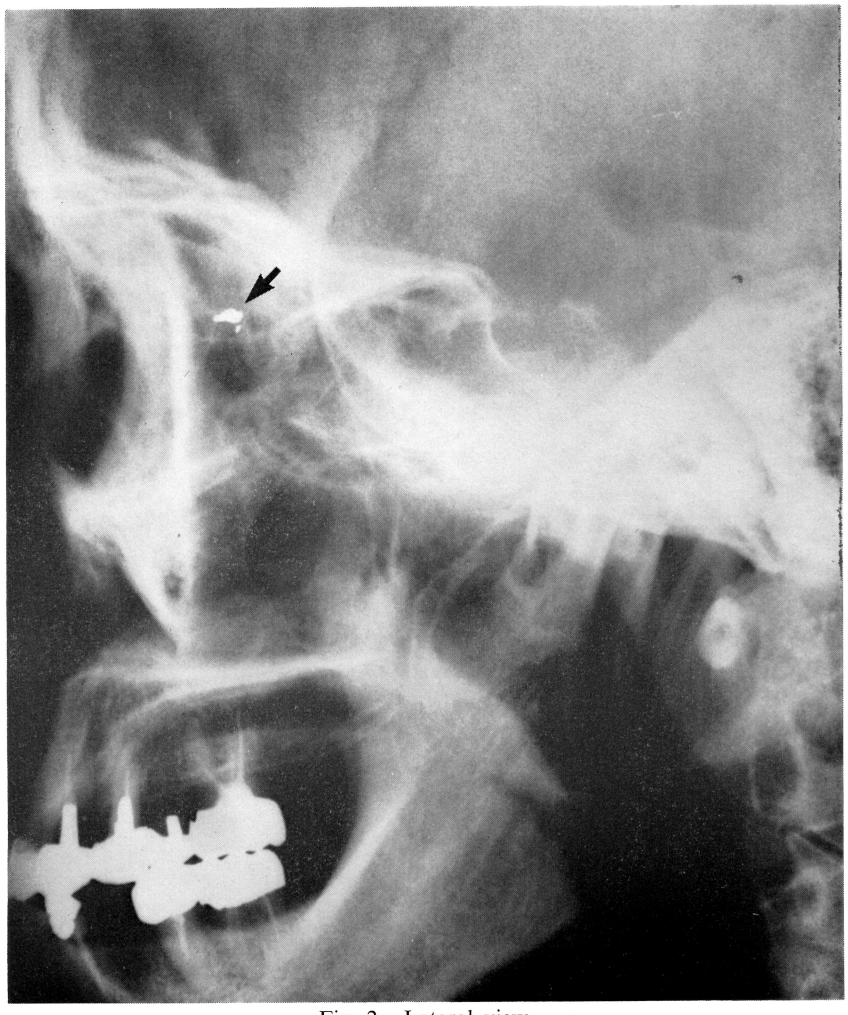

Fig. 2. Lateral view.

at this point. First, the patient holds the nasal ala and tips the head forward in a sitting position. If this procedure is not effective, gauze with epinephrine or antibiotic-ointment is packed in the anterior nasal cavity. If anterior packing does not control the bleeding, chemical cauterization or electrocautery may be utilized.

(2) Posterior Epistaxis

Usually, posterior epistaxis is severe and difficult to control. Thus, it is necessary to use a Bellocq's tampon, that is, anteroposterior packing. In our division, a Forley's balloon catheter with hemostatic agents, such as fibrin glue[1] and oxidized cellulose, is utilized in place of a Bellocq's tampon. Posterior packing may be performed easily, safely and speedily with this catheter. Such packing should remain in place for at least 48 hours. If this procedure is not effective, transantral ligation of the internal maxillary artery[2] is performed.

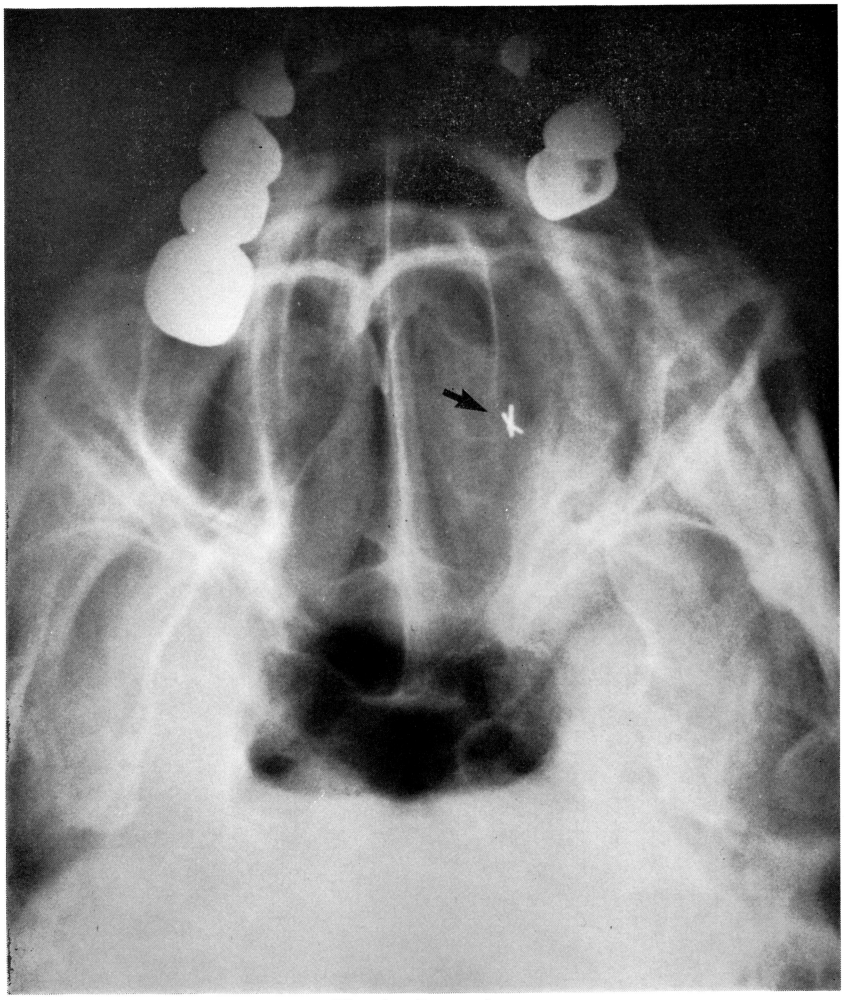

Fig. 3. Base view.

(3) Superior Epistaxis

Superior epistaxis is rare in comparison with the foregoing two types of epistaxis. Usually, packing is not effective as the bleeding point cannot be seen. Persistent superior epistaxis is best treated by clipping the anterior ethmoidal artery,[3] and an external ethmoid incision is used under local anesthesia in such a procedure. The anterior ethmoidal artery is situated at the frontoethmoidal suture line and about 15 mm behind the maxillolacrimal suture line (Fig. 4). The artery can easily be found without exposing intraorbital fat (Fig. 5), and is clipped with self-locking hemostatic clips just at the point where it enters the medial wall of the orbit (Fig. 6).

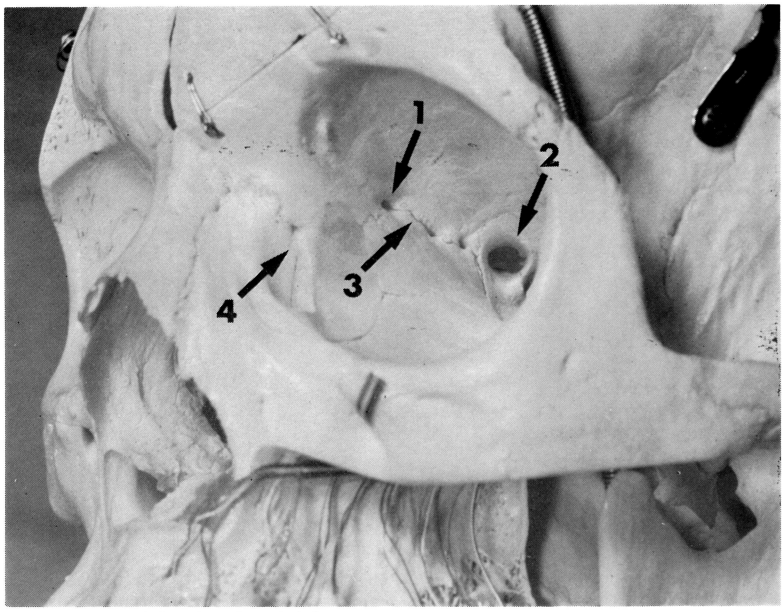

Fig. 4. Cranial bones.
Key : 1 : Anterior ethmoidal foramen
2 : Optic foramen
3 : Frotoethmoidal suture line
4 : Maxillolacrimal suture line

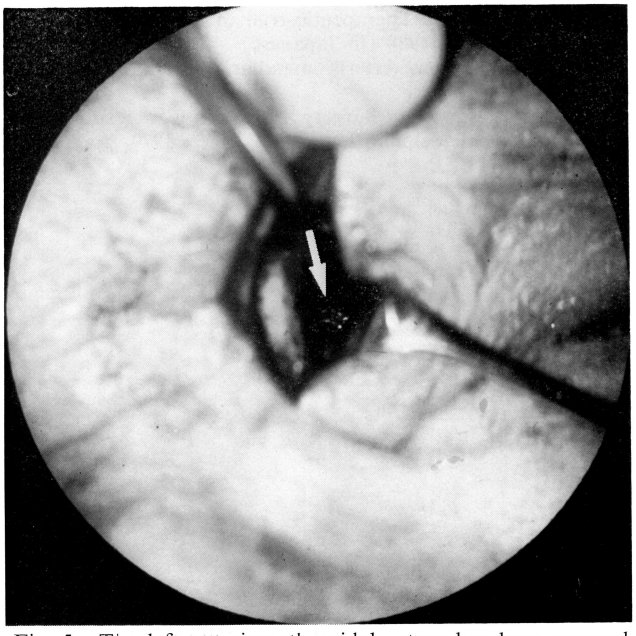

Fig. 5. The left anterior ethmoidal artery has been exposed (arrow).

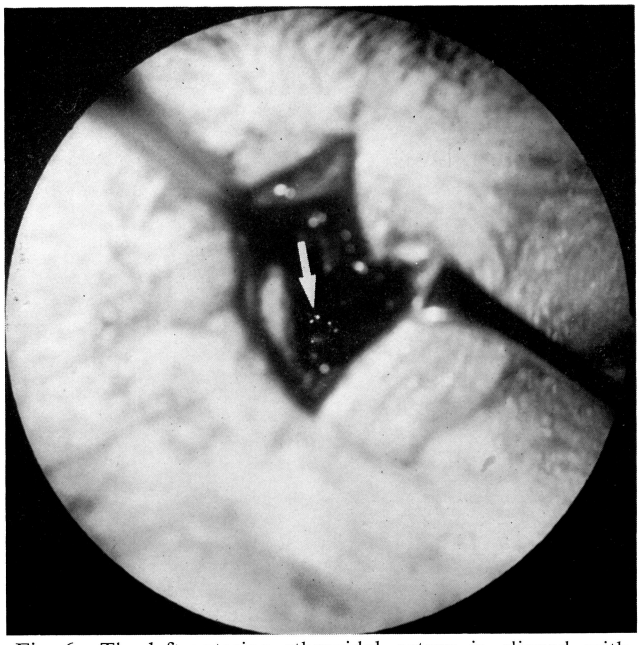

Fig. 6. The left anterior ethmoidal artery is clipped with a self-locking hemostatic clip (arrow).

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