A Simplified Vidian Neurectomy

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Summary. A simple surgical technique for trans-antral vidian neurectomy is proposed. After removing the posterior maxillary wall, the pterygoid canal is approached without dissecting the pterygopalatine fossa itself. This can be performed by elevating the periosteum at the medial corner of the fossa and then seeking the pterygoid canal subperiosteally. Electrocauterization is applied and the vidian nerve is sectioned. Bone wax is used to plug the canal. The vidian neurectomy is performed from outside the periosteum.


Introduction

Since Golding-Wood (1961) established a surgical technique to relieve sneezing and water-like discharges in patients with vasomotor rhinitis, surgery on the pterygoid nerve (vidian nerve) has become a generally accepted treatment and this technique has been extended to the treatment of recurrent nasal polypi, periodic migrain neuralgia and crocodile tears.

There are two approaches to the vidian nerve: one is transantral (Golding-Wood, 1961, 1962, 1970; Hiranandani, 1966; Chasin et al., 1967), the other is transpalatal (Chandra, 1969).

Below we will describe a simplified method of reaching the pterygoid canal through the maxillary antrum. In using this technique the pterygoid canal can be approached without dissection of the pterygopalatine fossa which, since it contains adipose tissue and branches of the maxillary artery, is trouble-some.

At the medial corner the pterygopalatine fossa is enclosed by the periosteum of the maxillary bone anteriorly, the perpendicular plate of...
the palatine bone medially and the spheno-maxillary surface of the sphenoid posteriorly. A small area of the spheno-maxillary surface can be exposed by pushing aside the periosteum laterally. This area is inferior to the pterygoid canal.

Operative Technique

The maxillary antrum is opened following the usual Caldwell-Luc procedure. A large window is made in the anterior wall of the antrum (An osteoplastic method is recommended). The posterior wall mucous membrane of the antrum is incised to make a flap which is reflected downward on the floor of the antrum.

The posterior bony wall of the antrum is cut with a chisel and removed. Care is taken not to injure the underlying periosteum of the fossa. The bone should be removed medially to the nasal wall of the antrum. We use a small rongeur made for this particular purpose.

A small curved elevator is used to detach the periosteum at the medial corner of the fossa. After pushing the periosteum which covers medial portion of the fossa aside laterally, the palatine bone and the spheno-maxillary surface of the sphenoid are quite easily exposed medially and posteriorly (Figs. 1A, 2B).

The pterygoid canal is located in the spheno-maxillary surface somewhat more medially than the plane of the nasal wall of the antrum. The funnel-shaped mouth of the canal can be easily found by probing. As the surgical procedure is limited to the area outside the periosteum, the vidian nerve itself cannot be observed directly.

Electrocauterization is applied to the canal under a surgical microscope. This cauterizes the vidian nerve with the periosteum covering it. The coagulated nerve is sectioned with a small knife. There is no severe bleeding. The funnel-shaped mouth of the canal is thoroughly exposed (Figs. 1B, 2C). Electrocauterization is again applied to the sectioned nerve in the vidian canal. The canal is plugged by bone wax.

The reflected mucous membrane is returned to the original position. Gauze packing is placed in the antrum for 2 days.

Comment

Trans-antral vidian neurectomy as reported in previous publications has been accomplished through the pterygopalatine fossa by incising the periosteum and dissectioning the fossa. This requires the identification of the maxillary artery and the foramen rotundum. These structures serve as surgical landmarks. The vidian nerve is sought from the foramen rotundum by going downward medially on the surface of the sphenoid body.

The present technique is quite simple because the fossa is not explored and bleeding which presents an obstacle, is minimal. Although there is a pterygoid artery running from the maxillary artery into the pterygoid canal, it is a small one and can be sectioned after electrocauterization without significant bleeding. The canal is sought from below upward, instead of from the foramen rotundum downward and medially.