Why is Unilateral Vidian Neurecotomy (VN-u) Effective?

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Letter to the Editor

Historical review: Vidian Neurecotomy (VN) has been carried out for more than half a century, although there has been many controversies. In recent years, the theory of “unilateral operation, bilateral benefit” of VN (VN-u) has been put forward and practiced. This theory has been proved to be effective clinically.

Main point of view: VN-u is based on the interaction of “nerve-immunity”. The innervation of nasal mucosa is characterized by dense distribution of sensory nerves and strong parasympathetic function. The primary function of peripheral nerve-immunity, plus the mechanism of CNS signal amplification and central integration, is the main basis of VN-u. The clinical effect of VN-U is ideal and can be used as evidence.

Main problems: the main concerns of VN are recurrence and Dry Eye Disease (DED). In terms of the former, VN has gone through the development process from macro surgery to microsurgery and then to endoscopic transnasal surgery. Currently, image guided surgery has been used in VN, which further improves the accuracy of surgery while misoperation was decreased to the greatest extent. In terms of the latter, i.e., DED, based on the accuracy and minimally invasive nature of the surgery, especially the development of VN-u, the occurrence of dry eyes is greatly reduced, in which the central regulation after VN-u plays an important role in the secretion of tears on both sides. We observed the process of tears secretion from 0 to partial recovery and finally to complete recovery after VN-u clinically, and more interestingly, we also observed that tears secretion on the non-surgical side begins from normal baseline level before surgery to 0 after surgery and then gradually recovers completely. The mechanism needs to be clarified.

Prospect: No matter how to evaluate the role of VN, the clinical effect of VN-u is obvious, which is an important supplement to the treatment of refractory upper airway hyperreactive diseases that are not ideal for routine medication. Such a clinical practice in some cases even suggested that VN has unexpected good effect on asthma. In the future, the mechanism of VN depends on the breakthrough of the research in neuro-immune mechanism.