Chapter 1

History of Trigeminal Neuralgia:
A Discussion of How the Understanding of Pathophysiology Guided Treatment

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ABSTRACT

Trigeminal neuralgia (TN) is a debilitating facial pain disorder with a rich history dating back over a thousand years. From early records of cases with suggestive features, to better descriptions of its symptomatology, to today’s well-established diagnostic criteria, TN has evolved from a largely enigmatic condition to a now manageable disease. Paralleling our understanding of its pathophysiology, various therapeutic approaches have been developed, ranging from early medicines alleviating pain, to destructive procedures targeting the trigeminal nerve, to restorative surgery treating the source. As the pathology of TN becomes better understood, more effective strategies can be used to manage this condition. This chapter provides an overview demonstrating the parallel between understanding of the pathophysiology and the corresponding treatments that were developed over the years.

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INTRODUCTION

Trigeminal neuralgia, formerly known as tic douloureux and Fothergill’s disease, is a devastating neurological condition characterized by episodes of unilateral sharp, stabbing, electrical shock-like pain in one or more branches of the trigeminal nerve. Painful episodes can either occur spontaneously or after triggers such as cold air, fine touch, and facial movements (e.g. talking, eating, etc.). The recurrent nature of the disease and anticipation of the next attack frequently cause functional impairment and debilitation.

Initial treatments were largely medicinal and aimed at masking the symptoms. Because the pathophysiology was poorly understood, many treatments were used to alter sensorium, thereby decreasing awareness of facial pain. As the source of the pain was determined to be nerves, destructive procedures gained attention. These procedures were further refined after identifying the trigeminal nerve as the culprit of the disease. Various processes including chemoneurolysis, nerve transection, ganglionectomy, and balloon compression were used to damage the trigeminal nerve in effort to provide symptomatic relief. Chemoneurolysis is the injection of a chemical substance into the trigeminal nerve to cause damage. Ganglionectomy is the resection of the associated ganglion to decrease neural signaling.

More recently, vascular compression of the trigeminal nerve was discovered to underlie the painful symptoms. Therefore, decompressive surgery became the mainstay therapeutic approach for TN. However, for those who are refractory to surgical decompression or are poor surgical candidates, destructive procedures remain a feasible option. Furthermore, novel approaches such as stereotactic radiation have also emerged as potential alternatives. Unfortunately, many patients still have pain that is refractory to current treatments. As more is learned about the pathophysiology, perhaps novel therapeutic options can be discovered for this group of patients.

EARLY MENTIONS OF TRIGEMINAL NEURALGIA

The very first accounts of TN are unclear. A few key figures have been identified by historians as the earliest people to encounter this mysterious disease. As shown by the selected passages from literature thought to be the earliest descriptions of TN, the unique characteristics of TN have been observed early in history. However, it wasn’t until many years later was TN identified as a distinct disease.
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