Review Article

Neuropraxia: A Case Report

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ABSTRACT

ICD 10 G58.9 Neurapraxia is a disorder of the peripheral nervous system in which there is a temporary loss of motor and sensory function due to blockage of nerve conduction, usually lasting an average of six to eight weeks before full recovery.

Keywords: Neuropraxia, oral mucosa.

INTRODUCTION

Neurapraxia is derived from the word apraxia, meaning "loss or impairment of the ability to execute complex coordinated movements without muscular or sensory impairment".[1]

This condition is typically caused by a blunt neural injury due to external blows or shock-like injuries to muscle fibers and skeletal nerve fibers, which leads to repeated or prolonged pressure buildup on the nerve. As a result of this pressure, ischemia occurs, a neural lesion results, and the human body naturally responds with edema extending in all directions from the source of the pressure. This lesion causes a complete or partial action potential conduction block over a segment of a nerve fiber and thus a reduction or loss of function in parts of the neural connection downstream from the lesion, leading to muscle weakness.[1]

Case Report

A 50 year of female patient visited the dental OPD of Jaipur Dental College with chief complain of pain in the lower left back tooth region since 1 month. Pain was mild and continous in nature and tingling sensation is felt on whole of the third quadrant till the middle of the lower lip. History of extraction 1 month ago. Medical, dental and family history were noncontributory. General physical examination and extraoral examination was normal. Intraoral examination was also normal except the lower left buccal vestibule was tender near 38.

Fig. 1: On palpation left buccal vestibule was tender

Provisional diagnosis of residual abscess was given and an OPG was advised.

Fig 2: OPG

OPG of the patient reveals an unhealed extraction socket of 38 approximating the mandibular canal. Hence a fina diagnosis of neuropraxia was given. Cap Neurobion was prescribed twice daily for 1 month. On recall visit it was observed that patient was asymptomatic.

DISCUSSION

Neurapraxia results in temporary damage to the myelin sheath but leaves the nerve intact and is an impermanent condition; thus, Wallerian degeneration does not occur in neurapraxia. In order for the condition to be considered neurapraxia, according to the Seddon classification system of peripheral nerve injury, there must be a complete and relatively rapid recovery of motor and sensory function once nerve conduction has been restored; otherwise, the injury would be classified as axonotmesis or neurotmesis. Thus, neurapraxia is the mildest classification of peripheral nerve injury which was applicable for our patient also.[1]

Subjective sensory symptoms include numbness, tingling, and burning sensations at the site of the injury. Objective sensory symptoms are generally minimal in regards to touch, pain, heat, and cold.

Several mechanisms of nerve injury including mechanical lesions, ischemia, immunologic attack, metabolic disorder, toxic agents, and exposure to radiation. The most common mechanism of injury is nerve compression in which external pressure causes decreased blood flow to the nerve and deformation of the nerve fibers.[2]

Seddon's classifications of peripheral nerve damage[3]

- Three distinct classifications and degrees of nerve injury
- Neurotmesis most serious degree of nerve injury. It involves the disruption of the nerve and the nerve sheath.
- Axonotmesis occurs when the majority of the supporting structures of the nerve are preserved, but disruption of the nerve fibres is still observed. Wallerian degeneration often occurs in the near the proximity of the injury site.
- Neurapraxia is least serious form of nerve injury.

Prognosis for recovery from neurapraxia is efficient and quick. Recovery begins within two to three weeks after the injury occurs, and it is complete within six to eight weeks. Physical therapy is a common source of treatment. Non-steroidal anti-inflammatory medications can also help to reduce swelling and pain at the injury site.

CONCLUSION

Neuropraxia is a nerve injury which often encountered after a traumatic extraction. Hence proper care care should be taken while doing any kind of surgical work.

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