Radiofrequency Neurotomy for the Treatment of Therapy-resistant Neck Pain after Ventral Cervical Operations

S. Klessinger
nova clinic, Department of Neurosurgery, 88400 Biberach, Germany
klessinger@nova-clinic.de

Introduction:
The primary aim of a ventral operation on the cervical spine is the decompression of the spinal cord and the spinal nerves. Sometimes the patient is dissatisfied with the result of the operation because of persistent neck pain even though a good decompression and an improvement of the radicular pain could be achieved. The objective of this study was to determine if radiofrequency neurotomy is effective for patients with postoperative neck pain after cervical spine operations.

Facet joints are a common pain source. They are innervated by the medial branches. This nerve arises from the posterior primary ramus and then passes around the articular pillar. An ascending branch innervates the facet joint above and a descending branch the facet joint below.

Material & Methods:
Review of charts of all patients who underwent cervical spine operations during a time period of 2.5 years. Patients with persistent postsurgical neck pain were treated with therapeutic medial branch blocks. If pain recurred, diagnostic medial branch blocks were performed. Patients with at least 80% relief following both the therapeutic and the diagnostic block underwent radiofrequency neurotomy. Positive treatment response was defined for at least 50% reduction of pain or sufficiently satisfaction of the patient.

Results:
242 operations were performed, 125 of which were artificial disc operations, 66 were stand alone cages, and 51 were fusions with cage and plate. Persistent neck pain occurred in 31% of the patients. The prevalence of zygapophysial pain after surgery was 13.2%.

These 32 patients were treated with radiofrequency neurotomy because of recurrent neck pain. The average follow-up time was 15 months. A significant pain reduction was achieved in 59.4%.

Examples:
Radiofrequency Neurotomy after a three level cervical fusion with cages and plate in two adjacent levels. (Patient not included in the study)

Conclusions:
- Persistent neck pain is very common after cervical operations.
- The facet joints are an important source of pain.
- The prevalence is independent of age, gender or the level of operation and type of implant.
- The prevalence of the facet joint pain is higher after double level procedures compared with single level operations.
- An accurate diagnosis is important for subsequent pain control using therapeutic interventional techniques like radiofrequency medial branch neurotomy.
- Radiofrequency neurotomy can provide an effective treatment for patients with persistent neck pain after ventral cervical spine surgery.

Literature: