

Shoulder function in various types of neck dissection. Role of spinal accessory nerve and cervical plexus preservation

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ABSTRACT

Aims and background. The aim of this study is to determine the effects of two different types of nerve-sparing neck dissection on shoulder function. Even if the spinal accessory nerve is spared in functional neck dissection, some degree of shoulder syndrome may occur. The role of the cervical plexus in shoulder function and the effects of dissection of level 5 are emphasized.

Methods. Twenty-six patients with laryngeal carcinoma were studied prospectively. Seventeen anterolateral and 15 functional neck dissections were performed. Electromyographic evaluation was carried out in all patients to assess spinal accessory nerve function preoperatively and at the sixth week and sixth month postoperatively. Shoulder disability was evaluated by a questionnaire (shoulder pain disability index) and goniometric measurements were done preoperatively and at the sixth postoperative month.

Results. In patients who underwent anterolateral neck dissection, the goniometric results were better than in the functional neck dissection group. The questionnaire results also showed better quality of life of patients who underwent anterolateral neck dissection. Electrophysiological evaluation of the trapezius muscles of both groups at the sixth week showed significant differences. The distal motor latency values of the anterolateral neck dissection group were shorter than those of the other group. Electrophysiological evaluation at the sixth postoperative month showed shorter distal latency values in the anterolateral dissection group, without statistical significance.

Conclusions. Preservation of the cervical plexus and less disturbance of the spinal accessory nerve are important to diminish postoperative shoulder disability. The type of neck dissection has an important influence on shoulder function.

Key words: shoulder syndrome, cervical plexus, spinal accessory nerve, neck dissection, electromyography.

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