The Surgical Management of Symptomatic Benign Peripheral Nerve Sheath Tumors ofthe Neck & Extremities. An Experience of 442 Cases- A Review

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Introduction

Peripheral nerve sheath tumors (PNSTs) are a subset of neuroepithelial tumors with histological diversity. PNSTs are broadly classified as benign or malignant; the former includes schwannomas and neurofibromas. In the last 3 decades, very few series of surgically treated benign and malignant PNSTs have been reported that describe in detail the surgical experience dealing with this diverse problem involving several nerves. Surgical management of benign PNSTs is challenging, as excision of the tumor with preservation of neurological function is the primary goal of the treatment. In our study, we aimed to better understand the demographic features, clinical presentations, neuroradiological features, surgical and pathological findings, and outcomes with respect to morbidity

Methods

A retrospective review of clinical and radiological findings of 442 patients with benign PNSTs involving the neck and extremities treated surgically from 2000 to 2014 was performed.

Results

Results: In our series, benign PNSTs involved the extremities in 290 (65.6%) patients and the brachial plexus in 146 (33%) patients, and 6 (1.4%) patients had tumors of the extracranial portion of the vagus and hypoglossal nerves in the neck. The mean age of patients was 38 years. The presenting features were painful mass and paresthesia. Preoperative motor weakness in the extremity was noted in 15.6% of patients. The common nerves involved by the tumors were the ulnar nerve (15.8%), sciatic nerve (12.7 %), and upper cervical roots (11.5%). The excision was total in 81.2%, gross-total (>90%) in 17.9%, and subtotal (>50%) in 0.9% patients. In 17.6% of patients, there was severe postoperative neurogenic pain. In 28 (6.3%) patients, a new motor deficit was noted following surgery. Recurrence was seen in 2 patients in our series. The mean follow-up was 30.2 months.

Conclusions

Benign PNSTs have excellent clinical outcome, and the goal for surgical treatment is total to gross-total excision of the tumor with neural preservation.

Learning Objectives

To analyze the outcome with respect to the morbidity, extent of resection and recurrence and review and compare our results with that reported in literature.

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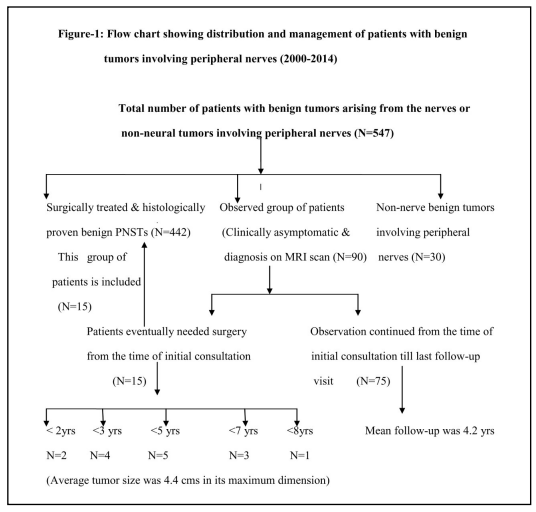

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