GUYON'S CANAL SYNDROME DUE TO A SYNOVIAL CYST

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ABSTRACT

We present a case of Guyon's canal syndrome caused by a synovial cyst within the left wrist of a 48-year-old female patient. The patient presented pain and paresthesia in the region of the ulnar nerve, with loss of muscle strength and left-hand deformity. Electroneuromyography showed a compression of the ulnar nerve at the wrist level. Surgical decompression of the nerve at Guyon's canal with resection of the cyst was performed. After the surgery, the patient presented an improvement in the pain and paresthesia, as well as an increase in muscle trophism and correction of the deformity.

Keywords – Ulnar Nerve Compression Syndromes; Synovial Cyst; Nerve Compression; Ulnar Nerve

INTRODUCTION

The ulnar nerve can be compressed in some parts of its path, including the cubital canal, arcade of Struthers and Guyon's canal[(1)]. Compression at Guyon's canal is considered rare in the literature. There are various causes of compression at Guyon's canal, such as trauma, tumors, thrombosis of the ulnar artery or cysts. The increased pressure inside the canal causes a decrease in the conduction velocity of nerve stimuli, thereby generating pain, paresthesia and muscle weakness.

Synovial cysts may occur in any joint, but they are most frequent in the wrist, on its dorsal face, and they can function as a compressive factor in osteofibrous tunnels.

In this study, we present the description of a case of Guyon's canal syndrome caused by a synovial cyst in the left wrist of a 48-year-old female patient.

CASE REPORT

The patient was a 48-year-old right-handed non-white woman who worked in her home, with a report of pain in the hypothenar region of the left hand that had started insidiously and had evolved for four months. She also presented paresthesia on the path of the ulnar nerve and a strength deficit in her left hand. The pain was constant, of medium intensity, with worsening upon mobilization of the left thumb. She said that she had not suffered any local trauma of any type, or previous lesions to the wrist.

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Upon physical examination (Figure 1), she presented hypotrophy of the intrinsic musculature of the hand and hypothenar eminence, and cubital ulnar claw on the fourth and fifth fingers. She showed difficulty in moving her hand, especially the fourth and fifth fingers, with incapacity to extend these fingers. There were no other evident abnormalities. Upon palpation, she presented diminished sensitivity along the little finger and the ulnar face of the ring finger. The sensitivity of the dorsum of the hand was preserved. The radial and ulnar pulses were palpable, with good tissue perfusion in the hand, and the Allen test was negative. In the neurological examination, she presented pain on finger percussion (Tinel) along the path of the ulnar nerve, which started at the wrist and went towards the fourth and fifth fingers.

Figure 1 – Appearance of the patient's left hand before the operation. Note the hypotrophy of the hypothenar region and interosseous musculature, along with the claw deformity of the fourth and fifth fingers. To the left: the markings for the surgical incision in the volar region.

The radiographic examination did not show any anatomical abnormalities, and electroneuromyography showed motor, axonal and distal (wrist region, in Guyon's canal) neuropathy of the left ulnar nerve.

The patient underwent surgical exploration of Guyon's canal by means of a 6 cm zigzag incision in the volar-ulnar region of the left wrist and hand, under an anesthetic block of the brachial plexus, with the use of a pneumatic tourniquet. The exploration was deepened carefully in layers, and it was observed that the compression was caused by a synovial cyst of around 5 mm x 12 mm, between the hook of the hamate and the pisiform (Figures 2 and 3). The cyst was resected, along with the neurolysis in the canal, and the skin was sutured using nylon thread after reviewing the hemostasis. The patient was thus diagnosed as presenting type I compression (motor and sensory deficit).

The patient evolved with pain relief and improved sensitivity, as well as progressive improvement of the hypotrophy of the musculature and increased muscle strength. She is currently using an orthosis to correct the cubital claw (Figure 4) and is undergoing physiotherapeutic rehabilitation.

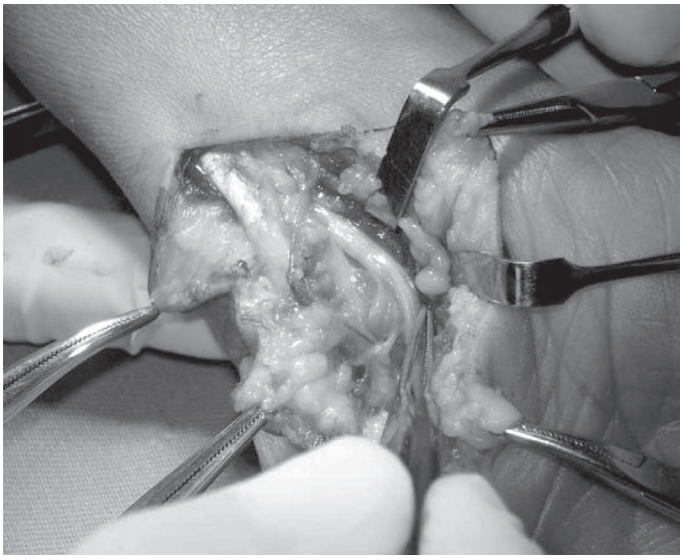

Figure 2 – View of the ulnar nerve on its path, with the synovial cyst protruding in its floor.

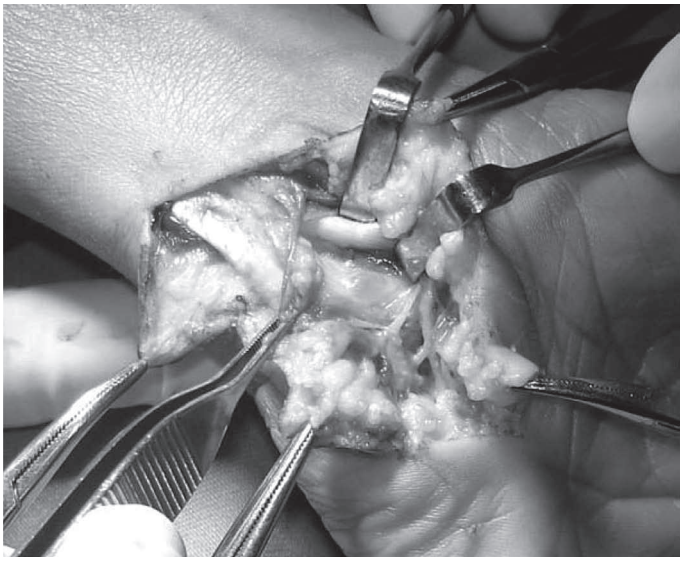

Figure 3 – View of the synovial cyst in Guyon's canal, after separation of the ulnar nerve radially.

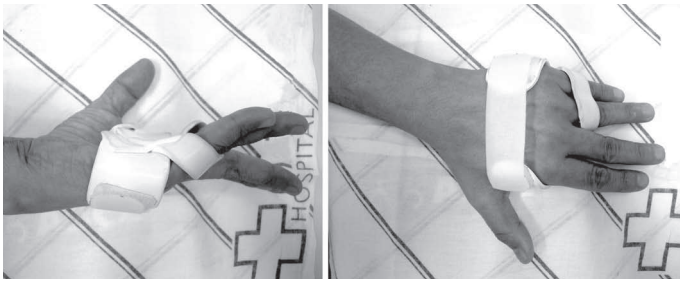

Figure 4 – The orthosis for correcting the cubital claw, positioned on the patient's hand. Note the flexion of the metacarpophalangeal joints of the fourth and fifth fingers and the adduction of the fifth finger.