Carpal Tunnel Syndrome due to Lipoma - A Case Report -

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Introduction

Carpal tunnel syndrome is the most common compressive neuropathy in the hand. Median nerve is chronically compressed in a narrow space composed of transverse carpal ligament and carpal bones, which can cause pain, numbness, hypopesthesia, and atrophy of the thenar muscle. In most cases, specific causes or factors can not be identified. But space occupied lesions may be locally compressed, or caused by systemic causes such as diabetes and hypothyroidism. Tumors are rarely the cause of local compression in the carpal tunnel. Lipoma is one of the most common soft tissue tumors, but it rarely occurs in the hand, and carpal tunnel syndrome due to compression of lipomas is rarely reported.

Case Report

A 66-year-old woman with diabetes was admitted to our hospital with a left palm mass and tingling sense three years ago. According to the patient, the timing of the onset of the tingling sense was not known, but it was similar to the time when the mass was found. The size of the mass was slightly larger than three years ago. A physical examination performed at the outpatient clinic revealed a 3x3cm mass palpated near the thenar muscle. There was no atrophy of the thenar muscle and there was no weakening of the grip strength.

Magnetic resonance imaging of the left hand showed lobulated mass with the same signal intensity as the fat. The mass was surrounded by a flexor digitorum profundus tendon, flexor pollicis longus muscle, lexor pollicis brevis muscle, abductor pollicis brevis muscle. The proximal portion of the median nerve showed high signal intensity on T2 – weighted images, enhanced contrast enhancement, and suspected neuropathy.

Electromyography and nerve conduction studies were also suspected in the median nerve neuropathy distal to the transverse carpal ligament in the left hand.

In the proximal portion of the transverse carpal ligament, a skin incision was made parallel to the tendinous, extending to the flexor crease and exposing the mass. The yellow mass was compressing the median nerve branching to the common palmar digital nerve just distal to the transverse carpal ligament. The mass was carefully removed from the epineurium and completely resected and histologically examined.

Lipoma was confirmed by histopathologic examination and is currently being followed up through outpatient.

Discussion

Lipoma is one of the most common soft tissue tumors. It is usually derived from mature adipocytes and is usually enveloped in membranes, but occasionally invasive. The mass is found when it is palpable because it has no pain, and because the size increases slowly, it can be found in a state where it is large in size when it is located deep.

Carpal tunnel syndrome is the most common compressive neuropathy in the hand and is commonly known to develop bilaterally. Therefore, it is necessary to consider the possibility of carpal tunnel syndrome due to other causes such as space occupied lesion if physical examination, electromyography, and nerve conduction study have abnormal findings on one side only. Space occupied lesions that can cause carpal tunnel syndrome are distal radius fracture, ganglion, anterior dislocation of the lunate, hemangioma, and calcified mass. It is rarely seen by lipoma as in this case. In this case, because the mass was palpated around the thenar muscle, we suspected a space occupied lesion and performed magnetic resonance imaging before surgery. However, if it is not palpated, it is difficult to diagnose, and in the worst case, diagnosis may be missed.

Surgical treatment for carpal tunnel syndrome is well known and widely practiced. In recent years, minimally invasive surgery have also become active. It is common to undergo surgery after nerve conduction study. However, considering the patient’s sex, age, underlying disease, consideration ultrasonography, magnetic resonance imaging will be helpful for accurate diagnosis and treatment.

References


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