Paralysis of posterior interosseous nerve caused by parosteal lipoma

Sir,

Lipomas present in the deep soft tissue are often asymptomatic and rarely can cause nerve compression. We report a case of posterior interosseous nerve (PIN) palsy caused by parosteal lipoma.

A 59-year-old man presented with two-month history of progressive inability to extend left hand metacarpophalangeal joints of all fingers. There was no history of trauma to the hand. Physical examination confirmed no active extension of all left fingers with normal wrist extension. Sensory system examination was essentially normal. There was a deep painless mobile swelling in the proximal part of left forearm. Electromyography revealed evidence of denervation in the extensor muscles of the left fingers and no evidence of denervation in the radial extensors (carpi radialis brevis and longus). Sensory conduction studies in the left upper limb were normal. Magnetic resonance imaging (MRI) of the left forearm showed a lobulated hyperintense mass on T1-weighted sequence adjacent to proximal radius with no bone abnormalities were seen [Figures 1 and 2].
Surgical decompression of the mass was performed by postero-lateral approach. The tumor was encapsulated and adherent to the periosteum of the radius [Figure 3]. The tumor was totally removed without damage to the PIN branches [Figure 4]. The histological examination of the mass confirmed the diagnosis of lipoma. Follow-up at four months showed no motor deficits and no local recurrence of tumors.

Non traumatic palsy of the PIN is rare and PIN palsy caused by lipoma commonly occurs at the level of elbow. [1] The lipoma may be intramuscular or parosteal. [2-5] Only a few cases of paralysis of PIN secondary to parosteal lipoma of proximal radius have been reported. [4,5] The parosteal lipoma may cause palsy of PIN because of the near anatomical relationship of the nerve in this location. [3] The other mass lesions that can cause PIN palsy include: ganglion, [6] and soft tissue chondroma of the elbow. [7] The parosteal lipoma is extremely rare and account for 0.3% of all lipoma. These lesions are often solitary, slow growing, and adherent to periosteum. The histological features are similar to any superficial lipoma. [1] Typically, patients with PIN palsy due to compressive lesion often present with insidious onset symptoms including weakness of digital extension and deep forearm proximal swelling. As the level of nerve compression is distal to the radial nerve division into PIN and superficial branches. Pre-operative MRI is very useful as it can exactly localize the tumor and evaluate its relationship with the neighboring structures, especially the PIN. Presence of muscle involvement suggests the diagnostic possibility of liposarcoma. [8] Early surgical excision of parosteal lipoma is recommended to ensure good recovery of the nerve paralysis. [4,5] Surgical access for the decompression of the PIN can be posterolateral or anterior. Using the anterior approach, the dissection is easy and allows a direct vision of parosteal lipoma and minimizing the risk of damage of main nerve and also muscular branches. [4]

References


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