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Digital Neurilemmoma: A Case Report

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A rare case of neurilemmoma of the tip of the left middle finger, which was surgically excised by preserving the digital nerve with no neural deficit, is presented. The salient features and management is outlined along with review of literature.

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Neurilemmoma is a primary tumor of the peripheral nerve trunk. They are almost always benign and hence termed as 'Benign Schwannoma'[1]. Although usually solitary, they may be multiple as observed by Phalen[2]. The common locations are the flexor surfaces of the extremities, neck, mediastinum, retroperitoneum, posterior spinal roots and the cerebellopontine angle[3]. Though few reports on neurilemmomas of the forearm and hand[2] are encountered in the literature, there are no reports on neurilemmoma of the fingertips, which has formed the basis of this paper.

THE CASE

Figure 1. Fingertip showing the swelling.

Figure 2. Photomicrograph showing palisading spindle cells with areas of clearing and cystic spaces. H & E x 480.

A 40-year-old male tailor presented with a swelling of the tip of the left middle finger of 8 years duration (Figure 1). There was no history of trauma, pain, restriction of movements of the finger or similar swellings anywhere in the body. Examination revealed a single, firm, non-tender swelling of 3 x 4cm dimension. General systemic

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examination was not contributory. A provisional clinical diagnosis of implantation dermoid was considered and an excision was carried out under digital nerve block. Intraoperatively the digital nerve was found flattened along the capsule of the swelling, but not penetrating the substance of the tumor. Cut section showed homogenous grayish white areas. Histopathology revealed a well-circumscribed tumor composed of spindle shaped cells arranged in a palisading fashion. Antoni A areas with central area of clearing Verocay bodies and Antoni B areas along with cystic spaces were seen (Figure 2). Hence a diagnosis of neurilemmoma was made. Patient has been followed up for the last one year with no evidence of any local recurrence or new lesion elsewhere.

DISCUSSION

Peripheral nerve tumors, although infrequent, must be considered as a possible cause of pain and disability in the extremities. There are three varieties of these tumors that are of clinical importance: 1) Neurofibromas - usually multiple and are often associated with von Recklinghausen's disease, 2) Neurilemmomas - usually solitary and benign and 3) Malignant nerve tumors[2,4].

Neurilemmoma is one of the few truly encapsulated neoplasms of the human body, which arises from the cells in the sheath of Schwann. They are most commonly found on sensory cranial nerves and sensory spinal roots, but also occur in the autonomic and peripheral nervous system. They occur twice as frequently in women as in men and may vary in diameter from a few millimeters to 20 cms[2]. Any major peripheral nerve can be involved and they are usually solitary, although in a series of 17 patients, Phalen[2] found two patients with multiple lesions. Although literature suggests that tumors usually occur in relation to visible nerves, it is not unusual for them to present simply as a soft tissue lump with no apparent connection to the nerve though presumably they have arisen from microscopic nerve tissue or a tiny nerve which is not apparent[5]. On cut section, they are grayish or yellowish white and are firm in consistency, as in our patient. As they are well capsulated, they can be separated easily from surrounding tissue. There is a remarkable absence of neurologic deficit in patients with neurilemmoma, as in our patient.

The microscopic appearance of neurilemmoma is distinctive. Two different patterns usually can be recognized, designated as Antoni A and B. The type A areas are cellular, composed of spindle cells and are arranged in a palisading or in an organoid fashion (Verocay bodies). In type B, the tumor cells are separated by abundant edematous fluid that may form cystic spaces. These features were observed in our patient.

Surgical excision is the only modality of treatment for neurilemmoma. Since this is a benign neoplasm that only rarely recurs locally, every attempt should be made to preserve the nerve. A careful dissection and retraction of the nerve bundles will allow the tumor to be enucleated from the parent nerve without any significant interference with the function of the nerve[2]. This surgical principle was adopted in our patient with no neural deficit and is doing fine.

CONCLUSIONS

Neurilemmoma of the tip of the finger is a rare entity and is often diagnosed as an implantation dermoid. It is a slow growing benign tumor with a tendency to recur locally. A surgical excision with preservation of the nerve from which it arises to preserve the function of the finger is recommended.

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