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TUMOUR OF THE ULNAR NERVE

By

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Received 13.XII.67

Several papers have been written about paralysis of the ulnar nerve caused by mechanical pressure. 1952 *Seddon* (6) gave a list including 4 cases caused by a ganglion and one case probably caused by a Dupuytren contracture.

Brooks (1) gave a review of thirteen cases in which a ganglion, in most cases coming from the neighbouring joint, produced compression symptoms. In 4 cases *Brooks* found a ganglion on the ulnar side of the elbow. In 4 other cases he found ulnar affection from a typical ganglion compressing the ulnar nerve near the wrist or proximal in the palm. In none of these cases was the ganglion found inside the nerve.

A solitary tumour inside the deep branch of the ulnar nerve has been reported by *Jenkins* (2). The tumour was located inside the deep branch of the ulnar nerve with the nerve bundles spreading out over the surface of the tumour.

In all together 7 Schwannomas of large nerve trunks *Money* (4) found pain in 5 cases; the pain was of a sharp, shooting character, referring to the distribution of the affected nerve. Paraesthesias were frequently noted. *Money* (4) found no cases of Schwannoma with motor disturbance. Peripheral nerve tumours are rare. From 1910-1948, 360,672 patients were admitted to the Royal Alfred Hospital, Sydney, and only 146 were found to have peripheral nerve tumours. Carefully dissection of the nerve bundles away from the tumour was recommended by *Jenkins* (2). In malignancy the nerve trunk must be fully exposed above and below the tumour and no attempt made to save the nerve (*Money* (4)).

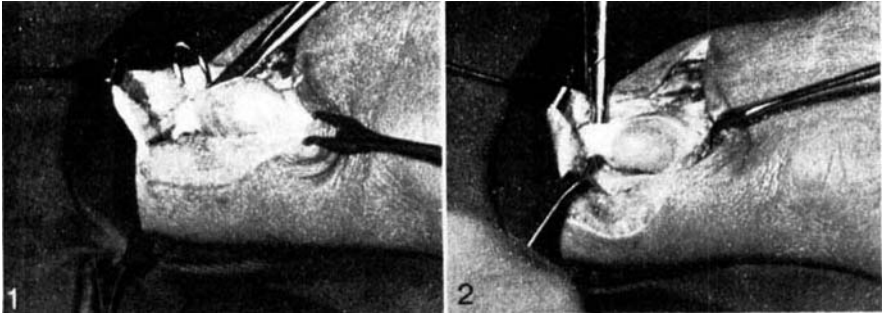


Figure 1. The well circumscribed tumour localized inside the ulnar nerve, the nerve bundles spread out over and around the tumour (Onion-like appearance).

Figure 2. The neural sheath was incised, the nerve bundles retracted gently with hooks, and the tumour could be removed.

CASE REPORT

A thirty nine year old housewife came to the out-patient clinic in November 1966 (case record no. 131.615). She complained of a lump situated above her left wrist on the volar aspect of the lower part of her left forearm. She had been aware of the lump for some years and it had grown, especially the last few months. The lump was tender to direct trauma. The last couple of years there had been some paraesthesia to the fifth and the ulnar half of the fourth left finger. The patient had not noticed any weakness of the fingers. Except for some left knee trouble, 3 years previously, the patient had been healthy.

We found the patient to be healthy except for a plum-sized tender tumour situated 6 cm above the left wrist over the ulnar part of the volar side of the forearm. The tumour was freely moveable and not adherent to the skin.

By compression of the tumour the patient complained of numbness of the fourth and fifth fingers. We did not find any other tumour localized to the subcutaneous tissue. The pre-operative diagnosis was a ganglion developing from the tendon sheaths.

The patient was scheduled for operation on 9th December, 1966. As the patient had complained of paraesthesia, the operation was performed under general anaesthesia. Before the operation the blood vessels in the arm were emptied. At the operation we found a well circumscribed tumour localized inside the ulnar nerve (Figure 1). The tumour was double with a narrow 1.5 cm long connection. The nerve bundles were spread out over and around the tumour and gave it an onion-like appearance. The neural sheath was incised by a knife. With two hooks it was possible to split the sheath along the whole length of the tumour, and with the hooks it was possible to retract the nerve bundles, and the tumour could be easily removed (Figure 2). A narrow stalk located at the distal end of the tumour was cut through. After the operation the nerve bundles were undamaged. No attempt was made to suture the nerve sheath. Two weeks after the operation the skin sutures were removed, the patient still had some paraesthesia but less than before the operation. There was no ulnar motor impairment, no objectively

sensory disturbance. Microscopically, the tumour was built up of fine thread-like tissue, woven together in bundles. In some places there was a plexiform structure. The cells, which were elongated and spindle shaped were arranged like a palisade. No sign of malignancy. Microscopical Diagnosis: Neurinoma. (Sign, *Tage Lund*).

DISCUSSION

Several authors have tried to explain the origin of tumours in the peripheral nerves (1, 2, 4, 5). Our case was a typical tumour developing from the sheath cells of Schwann. There are two views on the origin of tumours of the nerve sheath. *Stout* (7) believed that the tumours are derived from the sheaths of Schwann.

The opposite view, that these tumours arise from connective tissue is assumed by *Mallery* (3) and *Penfield* (5). In 3 cases *Jenkins* (2) found evidence suggesting that the tumours develop from the Schwann cells of the nerve sheaths and they should therefore be called neurilemmomas.

The tumours of the peripheral nerve are classified by *Jenkins* (2), as follows: 1) False neuroma. 2) Neurofibroma. 3) Neurilemmona (Schwannomalpalisade neuroma). 4) Neurofibrosarcoma.

In a neurofibroma the neurofibrils extend through the tumour, but in the Schwannoma the neurofibrils are split and run outside and around the tumour. A Schwannoma often undergoes cystic degeneration. A Schwannoma is nearly always solitary. *Jenkins* (2) found that the lesion is benign. *Wardle* (8) is of the opinion that the neurilemmona is of malignant nature. He presented 5, four with a malignant picture with local recurrence and even one case with metastases from the sciatic nerve to the peritoneum. Two cases of malignant Schwannoma reported by *Money* (4) occurred in the sheath of the sciatic and posterior tibial nerves respectively.

SUMMARY

A case of A Schwannoma located in the left ulnar nerve at the wrist joint is reported. The operative technique and the microscopical appearance are described. The need for a careful case history, and operation under general anaesthesia in a bloodless field is stressed.

RESUME

Un cas de neurinome localisé dans le nerf cubital de l'articulation du poignet est rapporté. La technique opératoire et les découvertes micro-

scopiques sont décrites. La nécessité d'une observation minutieuse du cas et d'une opération sous anesthésie complète dans un champ vidé de sang sont soulignés.

ZUSAMMENFASSUNG

Ein Fall von Schwannom, das im n. ulnaris am Handgelenk gelegen war, wird beschrieben. Die operative Technik und das mikroskopische Bild wird beschrieben. Die Notwendigkeit einer sorgfältigen Krankengeschichte und einer Operation bei voller Betäubung im blutlosen Feld wird hervorgehoben.

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