Brachial Plexus Palsy Secondary to False Axillary Aneurysm

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Brachial Plexus Palsy Secondary to False Axillary Aneurysm

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Abstract

The etiologies of brachial plexus palsy are numerous. In adults, they are dominated by blunt trauma and wounds. We report the case of a 20 year-old patient who consulted for left upper limb palsy lasting for four months without notion of trauma. The etiologic investigation identified a false compressive aneurysm of the axillary artery secondary to Behcet's disease.

Case Report

20 years old presents a burning dull pain of forearm and left hand, with functional impotence lasting for four months without notion of trauma. At the very beginning, total limb palsy caught our attention.

At the clinical examination, edema and cyanosis of the left upper limb, Palpable mass at the deltopectoral groove, pulsatile, with bruit, is making mention to its vascular origin.

1. A Doppler helped to make the diagnosis of a false aneurysm of the axillary artery, confirmed by arteriography (Fig.1).

2. Emergency surgical exploration revealed a false aneurysm of the axillary artery with compression of the brachial plexus, witch was atrophic.

3. A flattening of the aneurysm with saphenous vein bypass were made.

4. Neurolysis of the various branches of the brachial plexus was associated.

5. A postoperative EMG objectified a total block of the median, radial and ulnar nerves of the arm.

6. Rehabilitation member was initiated early

7. At six months follow-up, there was a discrete recovery of sensitivity in median and ulnar nerve's territory.

Etiologic investigation of the false aneurysm found a Behcet's disease.

Discussion

- The brachial plexus is an intimate relationship of the axillary artery at the Thoracic outlet.

- A very small aneurysm may be responsible for a negative compression on the nerves because the structures are surrounded by the same fascia.

Compression is often insidious which is responsible for a delay in diagnosis.

- The telltale signs may be in the form of pain as in our case, sitting mostly in the forearm or hand level, burning dull or crushing, continuous for minutes to hours or very short in electric shock. This pain may be absent in more than 10 % of cases (2).

- Arterial and venous signs may be late expression or misunderstood by the examiner due to the small size of the aneurysm or developed musculature of the subject (3, 4).

- The treatment is first etiological by a flattening of the aneurysm and restoration of vascular continuity with a graft.

- If the diagnosis is made early enough, at this stage neurological lesions are in type of neuroapraxia, decompression at this stage can expect a full recovery of neurological deficit.

In our patient, we opted for a conservative treatment of neurological injuries time to achieve the etiologic investigation of pseudoaneurysm.
- When demyelination occurs as a result of prolonged compression, the recovery is incomplete or lacking.

- The return of motor function of certain muscles depends on the distance between the muscle and the seat of neurological damage.

Axonal regeneration occurs at a speed of 1 mm per day which explains why the recovery of certain muscles such as the intrinsic muscles of the hand can take months or even years.

Unfortunately when the recovery time is prolonged there are irreversible secondary changes at denervated muscles, which lead to a poor functional outcome even when axonal recovery is complete. (5).

Conclusions

Upper limb provides an important function in everyday life. Lesions of the brachial plexus secondary to aneurysmal compression should be considered a surgical emergency because their early management provides complete recovery of neurological.
Illustrations

Illustration 1

Frontal section of arteriography showing the aneurysm

Illustration 2

cross-sectional arteriography showing the aneurysm