

MEDIAN NERVE COMPRESSION CAUSED BY REVERSE PALMARIS MUSCLE IN PEDIATRIC AGE: CASE REPORT OF A RARE CONDITION AND LITERATURE REVIEW

Filomena Ferreira, Luis Vieira, Flávia Moreira, Francisca Costa, Pedro Negrão
Centro Hospitalar e Universitário de São João Portugal

Introduction:

- Compression neuropathies in children is a rare condition. **Carpal tunnel syndrome (CTS) in children accounts for less than 0,2% of the total cases.**
- The **palmaris longus muscle (PLM)** is the most variable muscle in the upper limb, being agenesis the most common variation. **Reverse palmaris longus (RPL)**, where the muscle belly lies in the distal forearm and the tendon is proximal, has a reported incidence of about 0.89% on a Georgiev et al (2017) study of 56 human arms (112 limbs).

Material and methods

- The authors present the case of a **nine years old** girl, complaining, for one year long of **volar wrist pain** and hand, that worsen during scholar time, with no muscle atrophies.
- **MRI** described a superficial muscle belly inserting at the palmar fascia with a proximal tendon, compatible with a reversed palmaris tendon.
- **No nerve conduction alterations were present in electromyography.** A initial trial of conservative treatment was attempted but failed, what led to surgical proposal.
- Surgery consisted of median nerve exploration on the distal forearm with release of flexor retinaculum and resection of a RPL with a muscle belly of about 5 cm inserting at palmar fascia (fig 1-4).

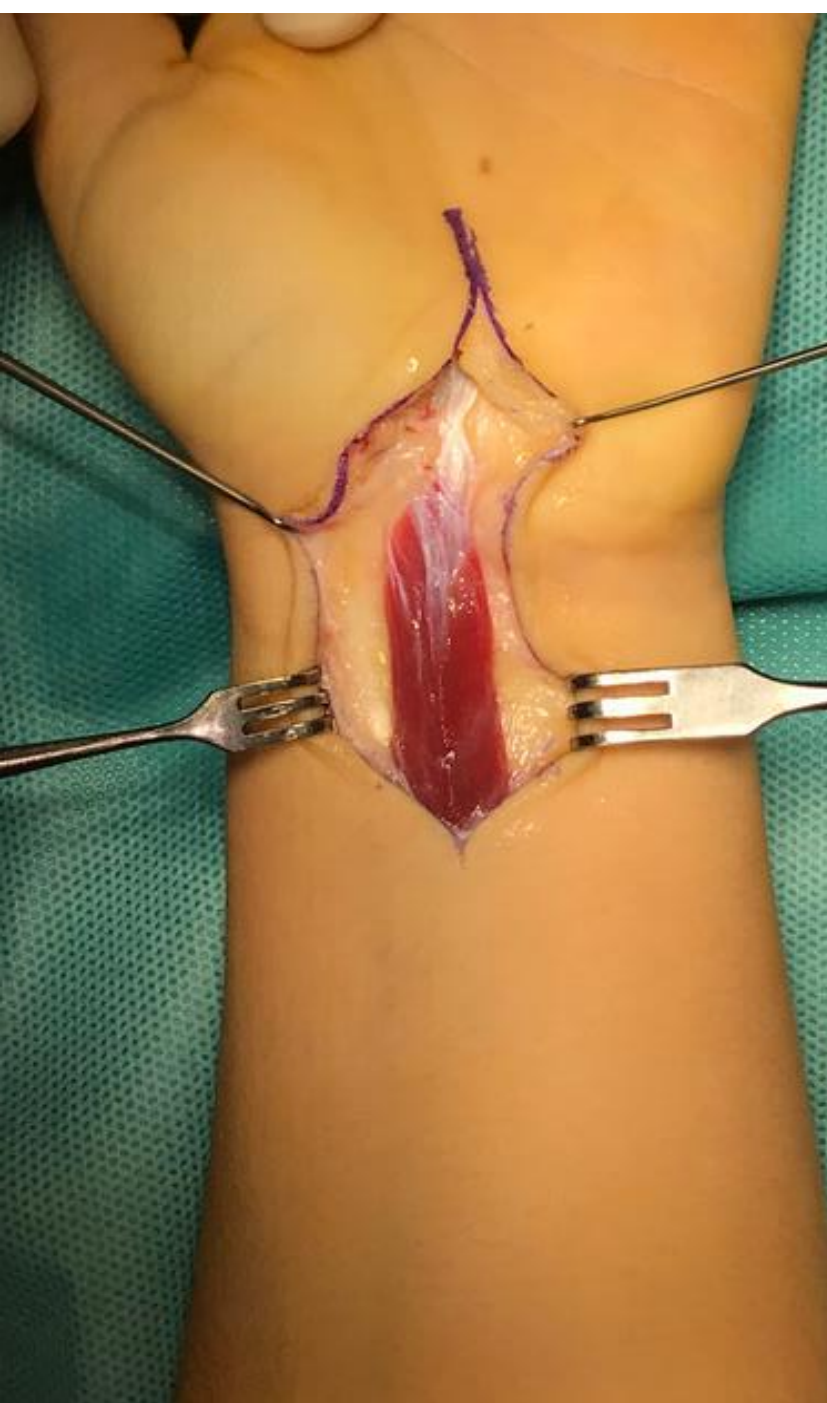


Fig 1: Reverse palmaris longus



Fig 2: Reverse palmaris longus

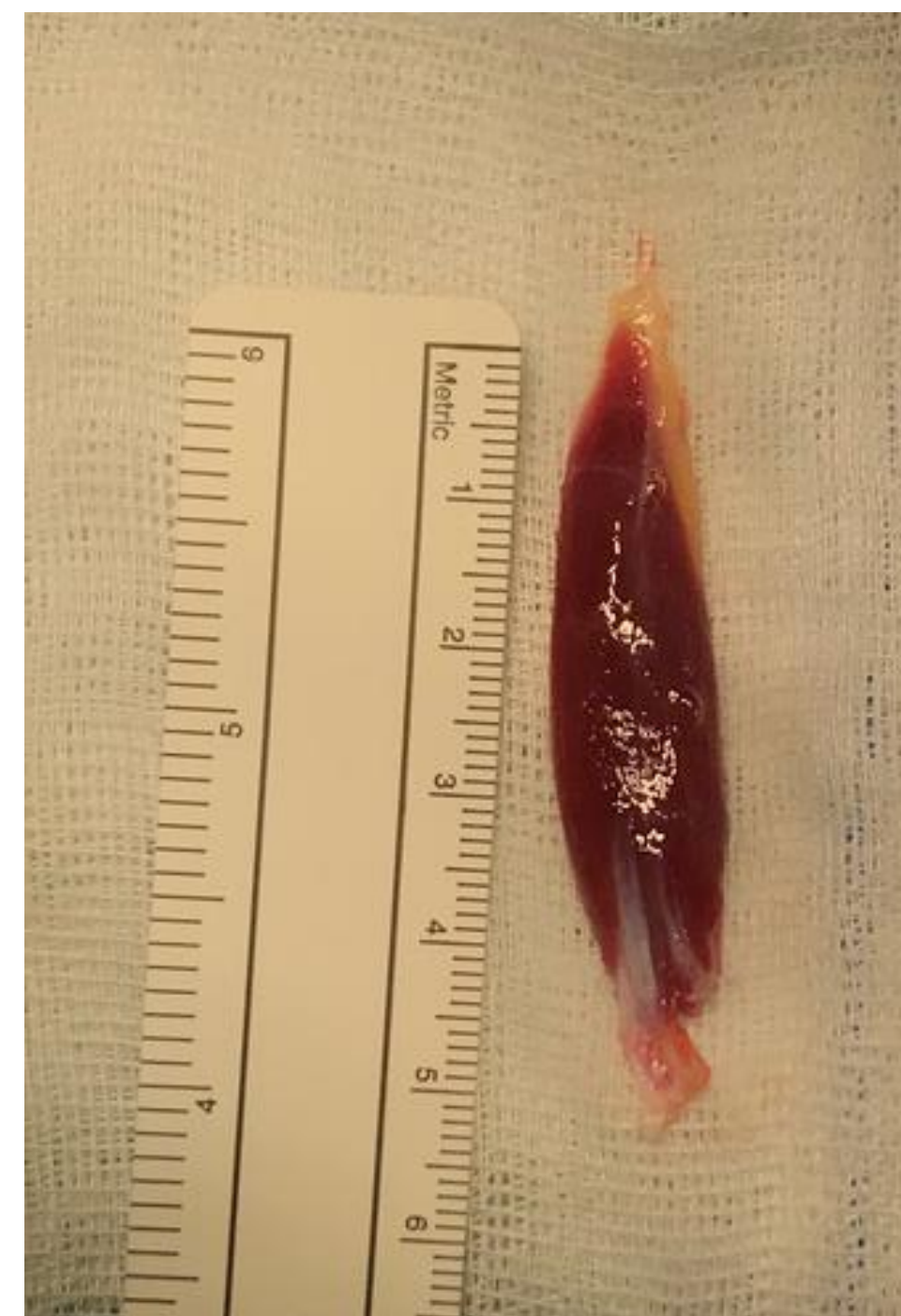


Fig 3: Muscle belly of around 5cm

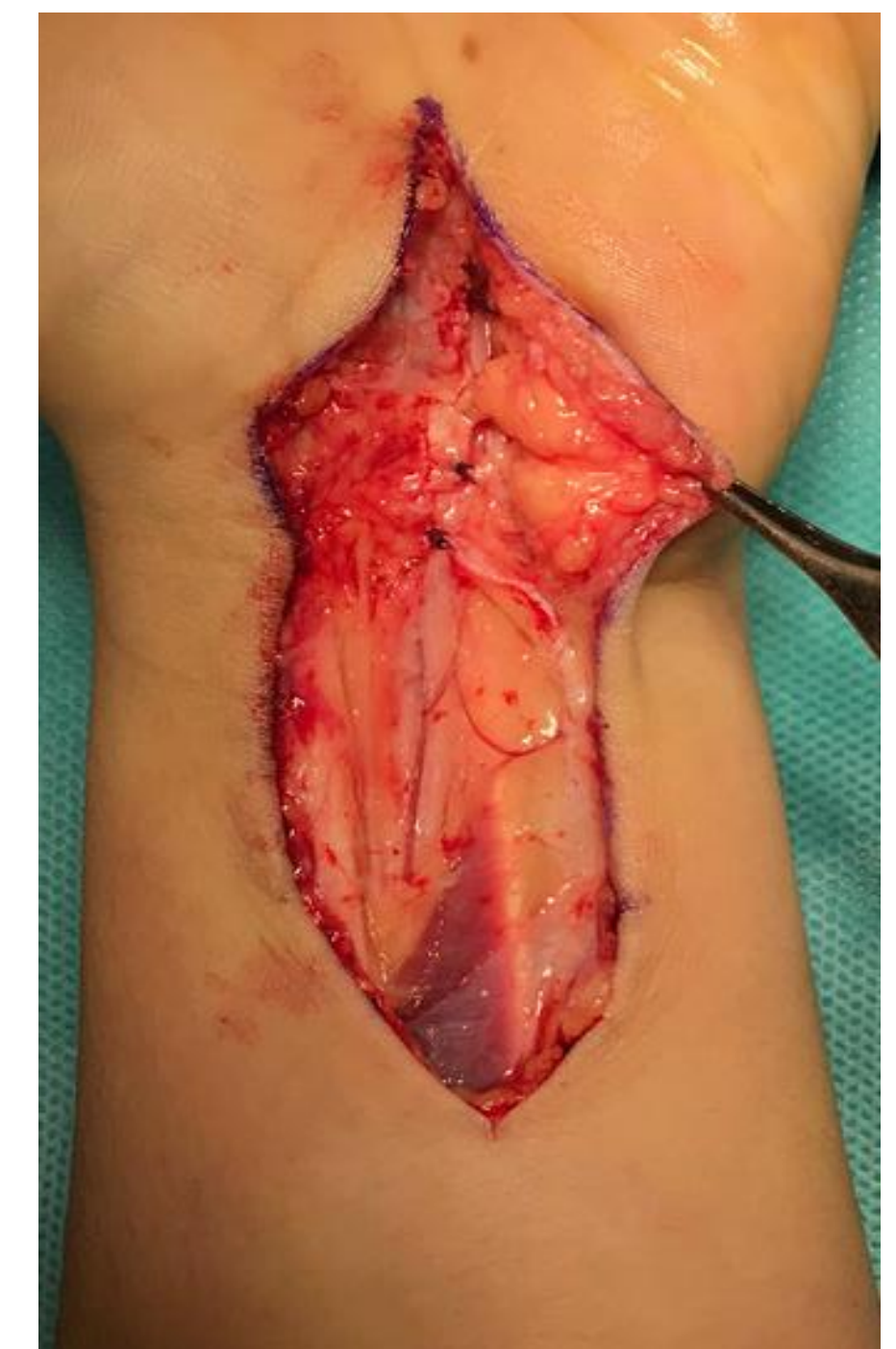


Fig 4: Final result. Carpal tunnel released to confirm there was no other cause of median nerve compression. Transverse carpal ligament partially sutured at the end.

Results

- Three months after surgery the DASH score is 0 (pre-operatively was 13.8 points). **The patient has returned to school and normal routine with no complains**

Conclusion:

- Diagnosing a symptomatic anomalous muscle can be challenging due to its relative rarity and different symptomatology that it can origin. Median nerve compression by **RPL is rare, but may happen, especially associated with dynamic intense activities**, being reported in athletic adult patients.
- **There are only 12 cases of RPL described in literature, and none in such a young age or symptomatic in daily routine activities like the case presented.**
- The knowledge of this anatomic variations are also very important when considering tendon reconstructive surgery as palmaris longus is the “work-horse” of upper limb tendon graft.