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Letter to the editor

Soft-tissue chondroma within the extensor tendon of the index finger in a child

Chondrome des tissus mous dans le tendon extenseur de l'index chez un enfant

A 12-year-old, right-handed girl was referred to our hospital because of a mass on the radial aspect of the proximal interphalangeal joint (PIPJ) of her right index finger. There was no history of trauma or any medical problems. The patient had first noticed this painless mass about five months earlier. On examination, the mass was hard, measured roughly 1 × 1 cm, was not adherent to the skin or deep structures, and was not tender. The metacarpophalangeal and interphalangeal joints of the finger both had full active range of motion.

An X-ray showed a completely radiolucent mass. Magnetic resonance imaging (MRI) revealed a well-delimited solid mass that measured 12 × 12 × 10 mm. The mass had low-to-intermediate signal intensity in T1-weighted images (with and without contrast), and high signal intensity in T2-weighted images (Fig. 1a and b).

After preoperative preparation, the patient underwent surgery through a radial longitudinal approach. The mass was oval, firm, very well demarcated, easily separated by blunt dissection, and not connected to underlying tendon, bone, joint or other deep structures. Marginal excision was performed. Macroscopically, the tumor was solid and whitish and had a rubbery texture. It measured 1 × 1 × 1 cm (Fig. 1c). The final pathological diagnosis was soft tissue chondroma (STC). At final follow-up, 36 months after surgery, the patient had full index finger range of motion without pain, and no signs of tumor recurrence.

STCs are among the rarest tumors of the hand and present at an average age of 42.1 years [1–3]. Their occurrence in children is considered extremely rare. To our knowledge, only a few other childhood cases have been reported [1,3–8].

The tumor's local anatomy is critical to raising suspicion: the mass should have subcutaneous, subdermal, or dermal involvement and margins that are free of local periosteal and tendinous tissue [2]. Although more common hand tumors—like ganglia, lipoma, and cysts—can present in a similar fashion, in some cases radiopaque calcification can help to raise suspicion of this diagnosis preoperatively. In our patient, X-rays did not show any ossification. Giant cell tumors (GCT) of the tendon sheath should also be considered among the differential diagnoses as MRI could suggested it, even if their location is usually palmar. Another important diagnosis to consider is an extraperiosteal chondroma or a well-differentiated chondrosarcoma [1].

Histopathologic examination is critical to establishing the diagnosis of STC. However, microscopically differentiating between a chondrosarcoma and chondroma can be difficult [3]. Nowadays, immunohistochemistry can contribute to making the diagnosis, as STCs stain positively for S-100 protein and vimentin filaments, but importantly do not stain for epithelial or myoepithelial markers [2,4]. The most commonly recommended treatment is local excision with preservation of surrounding tissues [3]. After surgical removal, local recurrence has been documented in 17–18% of cases, however the authors did not report recurrence in published child cases [4,8].

In summary, this case documents a rare finding of a digital STC in a pediatric patient and expands on the pathologic differential diagnosis of any digital mass that presents in the pediatric population.

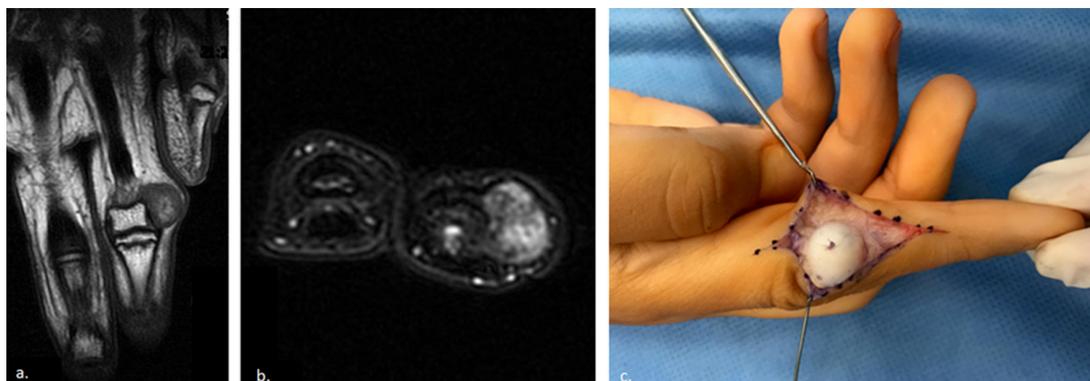


Fig. 1. Preoperative MRI of our patient's index finger, coronal T1-weighted (a). Axial T2-weighted MRI revealing a well-delimited solid mass (b). Intraoperative view, showing the extirpation of the soft tissue chondroma after incision from the index finger extensor tendon (c).

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Disclosure of interest

The authors declare that they have no competing interest.

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