Etiology and treatment of pediatric trigger finger: possible application of partial V-shaped resection of the central part of flexor digitorum superficialis through our case presentation

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To the Editor,

The purpose of this case presentation is to discuss the etiology and the efficacy of a standardized surgical technique in the treatment of symptomatic trigger fingers in pediatric patients.

A 7-year-old boy complained that he could not extend the proximal interphalangeal (PIP) joint of his left middle finger due to symptomatic locking and clicking, especially in the morning, for 4 months already. There was no obvious past history concerning his complaint except practicing the horizontal bar gymnastics as his sports activity. The X-ray films obtained at the initial consultation showed no abnormality of his middle finger. Corticosteroid (a total 0.3 ml of triamcinolone acetate; Kenacort-A) was injected under the A1 pulley and splinting was carried out. As the symptom did not improve by this conservative treatment, we treated him surgically 3 months after his first consultation. During

the surgery, no tightness or thickening of the A1 pulley was observed (Fig. 1a). After dividing the A1 pulley, an enlarged flexor digitorum superficialis (FDS) tendon due to adhesion between both FDS tendon slips was observed at the chiasma area (Fig. 1b, c). As triggering seemed to occur at the level of the FDS tendon decussation, the central part of both FDS tendon slips was resected (Fig. 1d). There was a specific tendon lesion, including fusiform thickening and inflammatory cellular infiltration (Fig. 2). He was able to extend the PIP joint through a full range. At the latest follow-up examination 1 year later, he had no complaints, and there were no serious complications such as nerve transection, bowstringing, or recurrence. Although the etiology of symptomatic pediatric trigger finger in this patient was unclear, environmental factors such as chronic mechanical stress rather than congenital factors seemed to be the plausible cause. Previous reports concluded that pediatric trigger finger may be safely and predictably treated by surgical release of the proximal part of the A2 pulley in addition to the A1 pulley and resection of a single FDS tendon slip [1, 2]. We recommended partial V-shaped resection of the central part of FDS over ulnar superficialis slip resection in pediatric patients, because PIP flexion contracture does not seem to be a serious problem in the pediatric population compared to the adult one.

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Fig. 1 Intraoperative findings. **a** Neither tightness nor thickening of the A1 pulley was observed. The *arrow* shows the A1 pulley. **b, c** After dividing the A1 pulley, an enlarged FDS tendon due to adhesion between both FDS tendon slips was observed at the chiasma area (*arrow*). **d** Outline of the resected area at the central part of both FDS tendon slips(*arrows*)

Fig. 2 Microphotograph of part of the FDS specimen showing fusiform thickening and inflammatory cellular infiltration

References

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