

Case report

Intratendinous ganglion cyst of the extensor digitorum longus tendon: A case report



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HIGHLIGHTS

- First reported case of an intratendinous ganglion of the EDL tendon.
- Increased risk of spontaneous tendon rupture warrants a lower operative threshold.
- Aspiration, corticosteroid injection and cyst puncture should be avoided.
- Surgical options should address recurrence risk and tendon functional demands.

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ABSTRACT

Introduction: Ganglion cysts are benign lesions, common in the hand and wrist. Intratendinous ganglion, however, are rare. We present the first reported case of an intratendinous ganglion cyst in an extensor digitorum longus (EDL) tendon of the foot.

Case report: A 35-year old presented with a left-sided painful dorsolateral foot swelling. Ultrasound suggested a ganglion cyst in proximity to the EDL tendon of the 5th toe. Two distinct swellings were identified on surgical exploration, including a 6 × 1 cm ganglion lying within the EDL tendon substance that had resulted in tendon splitting. The lesions were excised and EDL tendon repaired. Histological analysis confirmed that both lesions were ganglion cysts. Post-operative recovery was uneventful.

Discussion: Intratendinous ganglion cysts are rare lesions that pose a unique set of diagnostic and treatment challenges. Unlike conventional ganglion, their diagnosis may not be possible until surgical exploration. They have been reported to increase the risk of spontaneous tendon rupture. As such, a lower operative threshold should be applied to prevent their progression. A high index of suspicion should be applied to any ganglion reported radiologically to be in close contact with tendons. If diagnosed upon surgical exploration, it is essential that the operating surgeon is prepared to appropriately modify the procedure to involve primary tendon repair, tendon transfer or tenodesis.

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1. Introduction

Ganglion cysts are common benign lesions typically arising adjacent to joints and tendons. They are most commonly located around

the hand and wrist [1–3]. Females are three times more likely to develop ganglion cysts and they frequently affect young adults [2,3]. The pathophysiology of these lesions remains unclear; the most widely accepted theory relates their formation to chronic irritation and degenerative changes in connective tissue that lead to the formation of cystic spaces [1,2,4]. While ganglion cysts have been widely reported within the literature, intratendinous ganglia occurring within the tendon substance are rare. At present, 27 cases have been reported in the English-language literature [5–24]. The majority of the lesions described have occurred in tendons over the hand and wrist. Six cases of intratendinous ganglion have been reported in the foot and ankle: three in the peroneus

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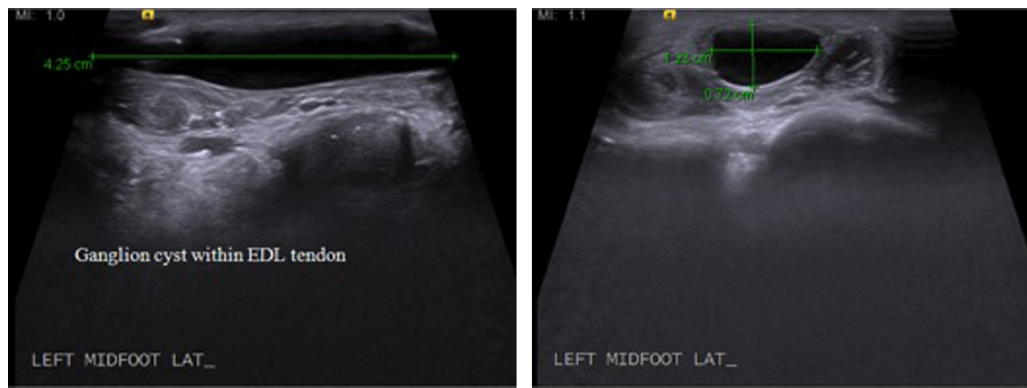


Fig. 1. Ultrasonographic picture of the intratendinous ganglion (linear and transverse sections).

brevis tendon [6–8], one in the peroneus tertius tendon [10], one in the peroneus longus tendon [9] and one in the extensor digitorum brevis tendon [5].

We present the first reported case of an intratendinous ganglion cyst in the extensor digitorum longus tendon of the 5th toe, discovered upon surgical excision of a separate, adjacent ganglion. We focus our report on the clinical presentation, radiographic findings and treatment implications for intratendinous ganglions of the feet.

2. Case report

A 35-year-old gentleman presented to our hospital with a history of a growing swelling over the dorso-lateral aspect of his left foot. The swelling was described to have dramatically increased in size over the prior four weeks and was increasingly painful, causing significant footwear discomfort. Patient did not give any history of the traumatic injury or any feelings of pins and needles in his foot. Clinical examination revealed a soft elastic linear mass of about 4×1 cm on the dorsolateral aspect of the foot, along the course of the EDL tendon to the 5th toe of the foot. This swelling was tender and easily mobile on the underneath structures and skin was free on its surface. Patient reported normal sensation in the superficial peroneal nerve distribution.

Ultrasound examination of the left foot demonstrated a cystic mass of 12 mm axial and 43 mm longitudinal length in close contact with tendon sheath of the extensor digitorum longus tendon of the 5th toe (Fig. 1). The ultrasound findings were reported to be suggestive of a benign ganglion cyst. Normal appearance of the peroneal and flexor tendons was additionally noted. No comments were made on the presence of an intratendinous lesion and it is likely that this finding was missed as a result of the overlying ganglion.

Based on the patient's symptoms and ultrasound findings, the decision was made to proceed with surgical excision of the suspected ganglion. Since the ganglion's location was assessed to be adjacent to the extensor digitorum longus tendon, no pre-operative plan was made to perform tendon resection, transfer or tenodesis.

Intra-operatively, two separate swellings were identified in the dorsolateral left foot. The clinically suspected lesion was found to originate from the extensor digitorum longus tendon of the 5th toe and lay directly adjacent to it, measuring $10 \times 8 \times 7$ mm. The second lesion, not suspected on the basis of clinical or ultrasound examination, was found within the substance of the extensor digitorum longus tendon of the 5th toe, measuring $40 \times 10 \times 7$ mm. This had resulted in splitting of the tendon as it passed through the dorso-lateral midfoot (Fig. 2A and B). Both lesions were excised (Fig. 2C) and sent for histology. Repair of the split extensor digitorum longus tendon was performed using 4-0 polypropylene sutures (Fig. 2D).

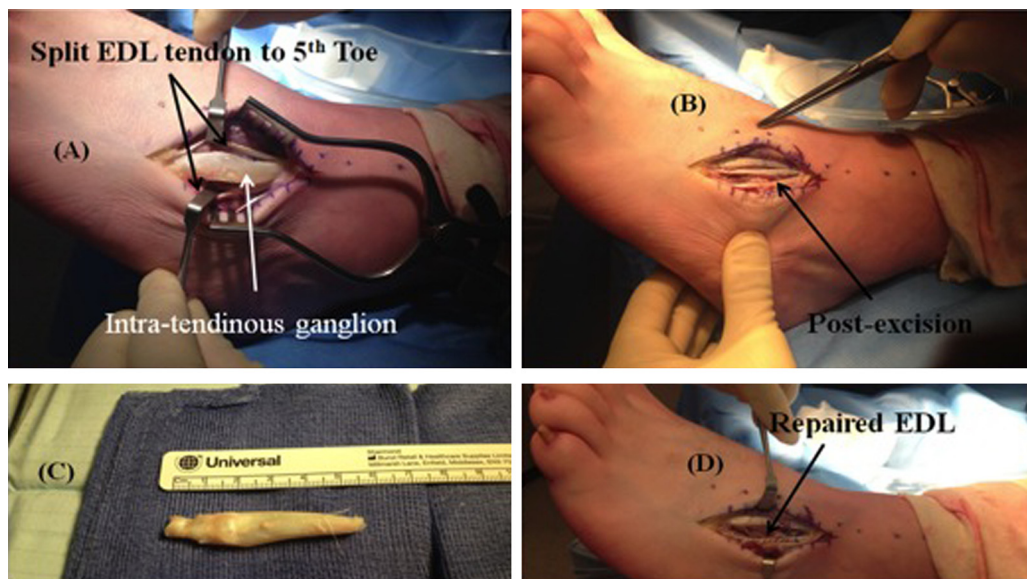


Fig. 2. Intra-operative clinical photographs—(A) intratendinous ganglion with a split in EDL tendon, (B) EDL split obvious after excision of the cyst, (C) excised cyst, (D) repaired EDL tendon.

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