

CASE REPORT

Bilateral simultaneous patellar tendon ruptures associated with osteogenesis imperfecta

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Bilateral patellar tendon rupture is a rare occurrence. Approximately 20 cases have been reported in the literature (1). Quasi-synchronous patellar tendon rupture has been associated with various systemic disease processes, but none have been associated with osteogenesis imperfecta (2). We report a case of bilateral simultaneous patellar tendon rupture in a 27-year-old female suffering from osteogenesis imperfecta. The patient in this report had such an association and made an uneventful recovery after surgical repair.

Case report

A 27-year-old female patient was admitted in September 1996 when she tripped over a loose pavement slab in the street and fell onto her knees. She had immediate severe pain in both her knee joints. On clinical examination, she had bruising and swelling over both patellar tendons with a palpable gap and was unable to straight leg raise. An ultrasound scan revealed bilateral midsubstance patellar tendon rupture (Figs 1, 2). Plain radiographs revealed patella alta on both sides. Intraoperatively, bilateral rupture of patellar tendons was confirmed and an operative repair on both sides using Ethibond® suture and wire loop to protect the repair was performed. At the

last follow-up, 7 months after the surgical repair, the patient was symptom free with full extension and 110° of flexion in both knee joints.

The patient had been admitted to the hospital several times in the past for multiple fractures and dental problems and a diagnosis of osteogenesis imperfecta (Type IB Sillence) had been made. There was a positive family history with her father and three sisters suffering from osteogenesis imperfecta.

Relevant previous medical history included surgery for fracture of the left patella in December 1994 (tension band wiring) from which she had made a full recovery. She had been seen 6 months earlier (in March 1996) with anterior left knee pain which was diagnosed as patellar tendinitis and an ultrasound scan showed some inflammation and a small partial thickness tear of the left patellar tendon distally. The right patellar tendon was of normal appearance. She was treated conservatively without injection of steroids and the symptoms settled in 6 weeks.

Discussion

Few simultaneous bilateral ruptures of the patellar tendon have been reported in the literature. The first documented case of bilateral ruptures in a healthy individual was reported by Fowler and Mitchell in 1950 in a 13-year-old. These have been reported to occur during athletic activities.

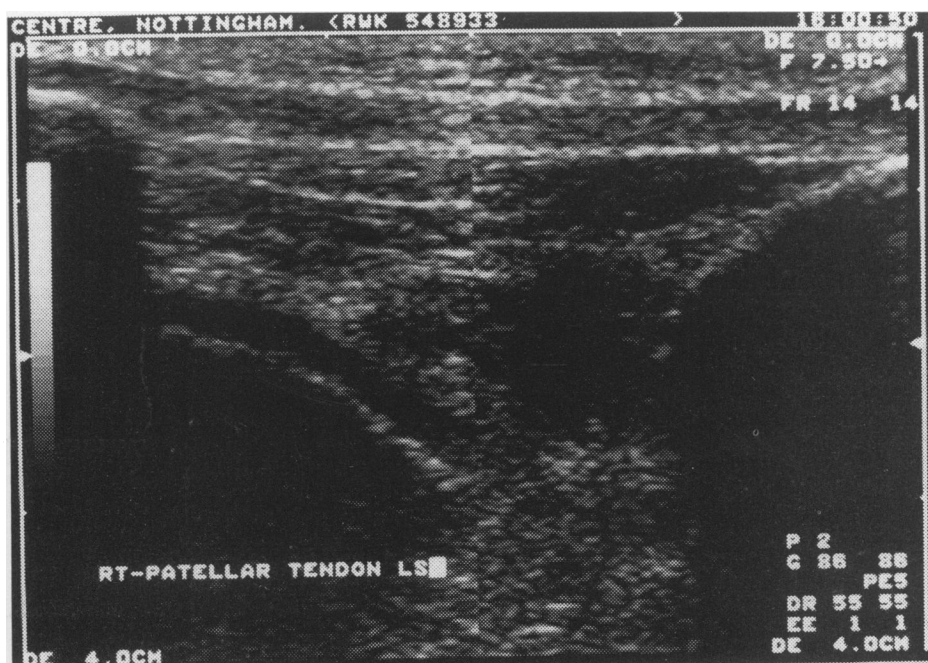
Simultaneous ruptures have been associated with various systemic diseases such as renal failure, rheumatoid arthritis, lupus erythematosus and hyperparathyroidism (1). It has also been associated with steroid use for the

Present appointments:

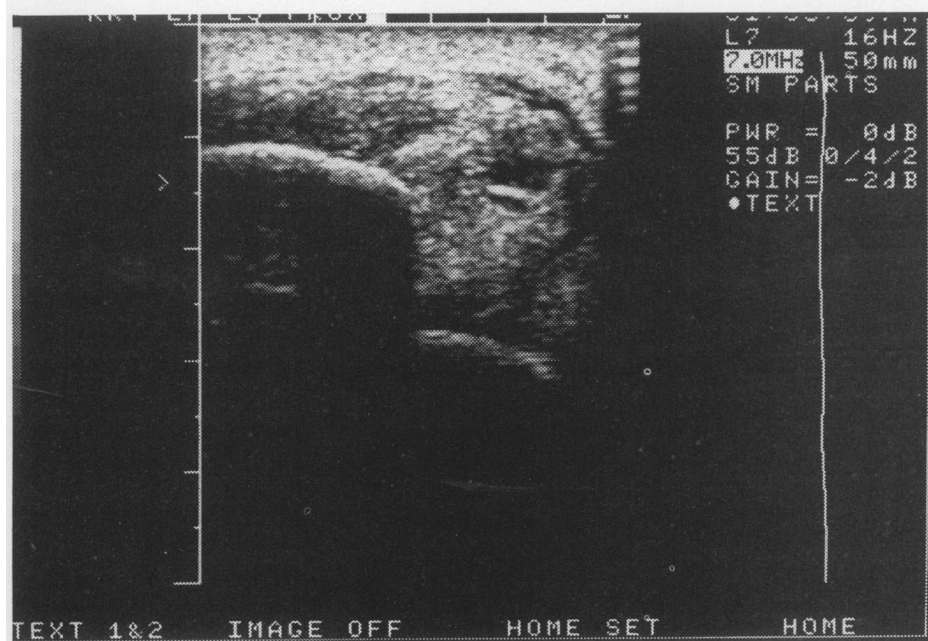
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(a)



(b)

Figure 1. Right patellar tendon. Linear array 7.5 MHz transducer. Sagittal section shows normal appearing tendon in March 1996 (a) compared with complete disruption of the proximal tendon on re-presentation (b).

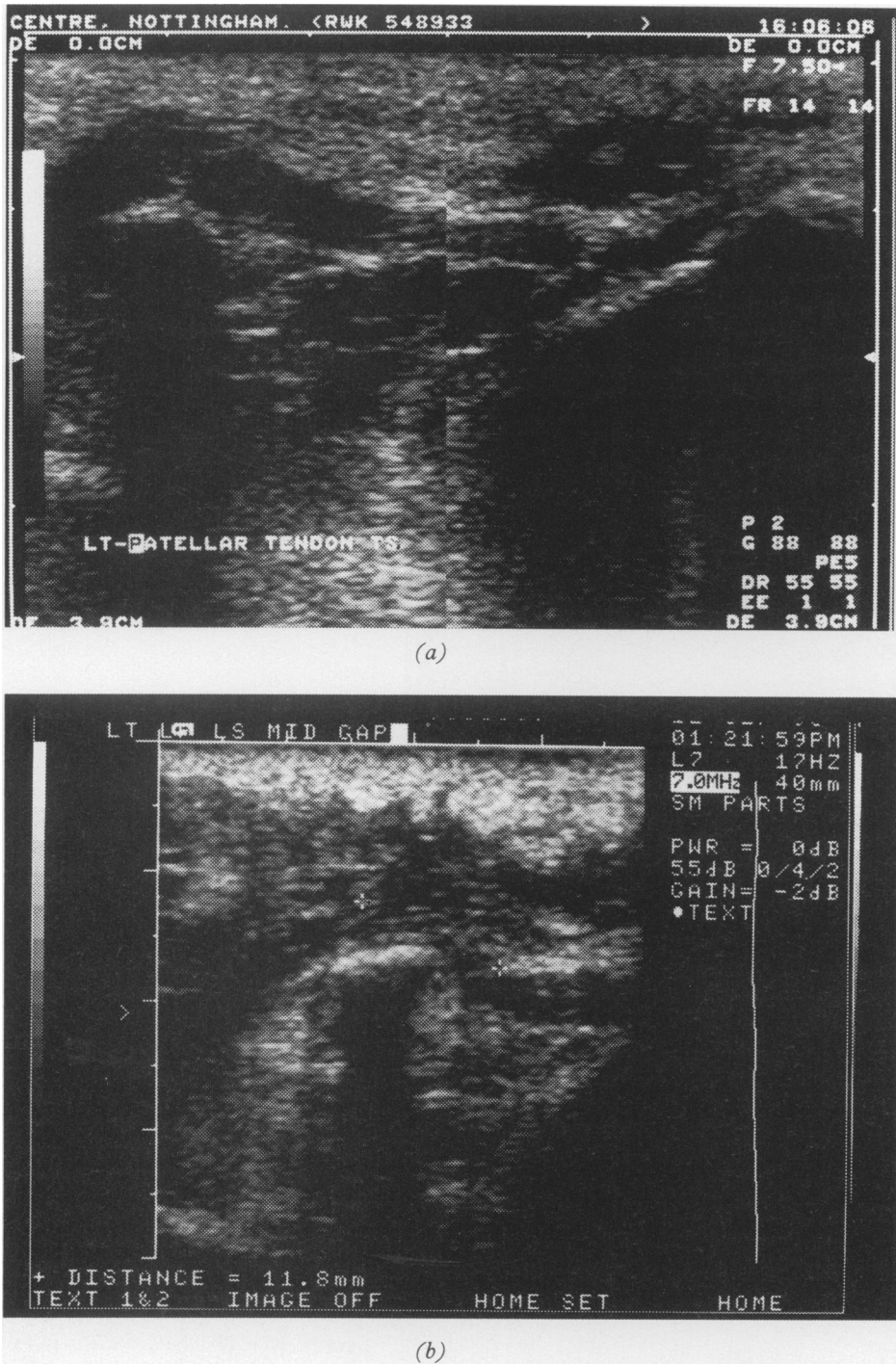


Figure 2. Left patellar tendon. Sagittal section in March 1996 shows inhomogeneous tendon structure with a small partial thickness tear distally (a). On re-representation, ultrasound showed complete loss of tendon continuity with separation of the free edges (cross-hairs) (b).

management of patellar tendinitis (1). However, to our knowledge, no case has been associated with osteogenesis imperfecta. Osteogenesis imperfecta is an inherited connective tissue disorder associated with bone fragility and ligamentous laxity. There is a genetic and biochemical defect in Type I collagen synthesis. This can possibly lead to diminished strength of the tendons.

We believe this to be the first reported case of bilateral patellar tendon rupture in a patient with osteogenesis imperfecta.

References

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