

# Patellar tendon laxity in systemic lupus erythematosus

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**T**endon rupture in patients with systemic lupus erythematosus (SLE) is a rare complication that appears to result from high doses of steroids over long periods.<sup>1</sup> There are reports of patellar ruptures in patients with SLE. Reported here is the first case in the literature of patellar tendon laxity in a patient known to have SLE, which was treated surgically before it could rupture. Also described is the surgical technique used to treat this rare complication.

## Case report

The patient is a 49-year-old man diagnosed with SLE 14 years ago, for which he received prednisone (20 mg every other day) for 10 years. He was otherwise healthy. He was referred to the second author's clinic because his left knee "gave way"; a lack of full extension had also been apparent for a few weeks. He denied having any history of left-knee trauma or past problems.

Physical examination revealed an attenuated patellar tendon and 30° lack of active extension. No defects were palpable in the patellar or quadriceps tendons. He complained of the knee giving way while walking. X-rays showed patella alta (Fig. 1). Our preoperative diagnosis was chronic patellar tendon disruption; we planned a surgical exploration and repair.

At surgery, a midline longitudinal incision from the patella down to the tibial tubercle exposed the site. When we opened the peritenon we found the patellar tendon completely intact but having about 5 cm of laxity. A 10–11-cm frontal

sagittal cut from the tubercle down to the anterior shaft of the tibia was made with an oscillating saw. The distal 5 cm of this bony block was removed. Then we slid the patellar tendon with its bony insertion 5 cm distally, and fixed it there temporarily with k-wires. The knee was then flexed to 90° to align the patella and to approximate an appropriate tension of the patellar tendon. The bony block was then fixed with 2 cortical screws, countersunk. The patellar tendon itself was fixed proximally with 3 cancellous screws with washers (Fig. 2).

Intraoperatively, the patient had full passive extension and flexion. Postoperatively, his leg was placed into a hinged brace locked at full extension; the flexion was gradually increased by 10° each week.



**FIG. 1.** Lateral radiograph of the patient's left knee, revealing patella alta.

Eventually he was weaned from the brace with rehabilitative physiotherapy. Over the next 2 years he was seen several times. Physical examination confirmed a full range of motion in his left knee, with full active extension. He has no instability of the knee when he walks, and his activities are not limited.

## Discussion

Tendon rupture in SLE is a known complication,<sup>1-4</sup> but its etiology remains un-



**FIG. 2.** Lateral view of the left knee after corrective surgery.

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## Notes de cas

clear. Corticosteroid therapy and collagen disease, either singly or together, seem to provide suitable conditions for rupture.<sup>3</sup> As yet it is impossible to predict which patients with SLE will develop this problem,<sup>3</sup> and still unknown whether a recent exacerbation of SLE disposes tendons to rupture.<sup>5</sup> Patellar tendon rupture is increasingly recognized, with many spontaneous ruptures in patients with SLE reported.<sup>1-5</sup> Bilateral patellar<sup>5</sup> and simultaneous patellar and quadriceps tendon ruptures<sup>5</sup> have been described.

To our knowledge, this is the first case in the literature of a patient with SLE who developed laxity of the patellar ten-

don and was managed surgically before it went on to rupture. The new surgical technique we described was very successful, and the patient returned to his regular, unrestricted activities.

**Competing interests:** None declared.

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# Combined trauma laparotomy and endovascular repair of thoracic aortic injury

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Proximal thoracic aortic injuries from blunt chest-trauma can be fatal soon after the injury or during or after attempts at open repair.<sup>1</sup> Recently, several centres have described excellent results from endovascular repair of these injuries through a transfemoral route.<sup>2-5</sup> Here we describe the unique combination of trauma laparotomy preceding endovascular repair of a thoracic aortic injury by means of the abdominal aorta to successfully treat 2 life-threatening injuries from a motor-vehicle accident.

### Case report

An 81-year-old woman, a belted driver, sustained serious injuries to her chest, abdomen and lower extremities in a traffic collision was transferred to our trauma centre. Contrast-enhanced CT (Fig. 1) showed a tear in her proximal descending thoracic aorta, just distal to the origin of

the left subclavian artery, with a large pseudoaneurysm, mediastinal hematoma and a splenic fracture with active contrast extravasation. CT imaging also revealed evidence of notable aortoiliac occlusive disease and the presence of a stent in the right common iliac artery.

A trauma laparotomy was performed and ongoing intra-abdominal bleeding was controlled with a splenectomy. With the patient hemodynamically stable, we exposed the infrarenal aorta as a route of access for endovascular repair of the thoracic aortic injury. An 18 × 9 mm bifurcated Dacron graft was anastomosed in an end-to-side fashion to the infrarenal aorta to act as a conduit for stent-graft delivery. Using portable C-arm fluoroscopy, a guidewire and catheter were introduced through the conduit into the aortic arch. An arch aortogram confirmed the position of the injury as just distal to the left subclavian artery. Measurements

had been taken from the preoperative CT image; a Talent endograft (Medtronic AVE, Santa Rosa, Calif.) with 15 mm of proximal bare wire and 115 mm of fabric (proximal and distal diameters, 32 mm) was selected. The 22 French delivery system was introduced via the conduit through the infrarenal aorta and into the aortic arch. Controlled hypotension allowed for accurate deployment of the endograft just distal to the left-common-carotid-artery origin with deliberate covering of the left subclavian artery. An intraoperative aortogram (Fig. 2) and postoperative CT confirmed successful exclusion of the thoracic aortic injury and pseudoaneurysm.

### Discussion

Development of an endovascular treatment for traumatic thoracic aortic injuries is one of the most important recent ad-

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