

Patella Tendon Repair and Quadricepsplasty Augmentation for Spontaneous Patella and Quadricep Tendon Rupture in Chronic Renal Failure Patient

¹NG, SHERWIN JOHAN; ²NORLIZAM BIN MOHD NOR; ¹MOHAMAD FAUZLIE BIN YUSOF

¹Department of Orthopedic Hospital Melaka

INTRODUCTION:

Simultaneous rupture of the quadriceps tendon and the contralateral patellar tendon is rare, usually occurring secondary to chronic systemic diseases such as gout, rheumatoid arthritis, or renal diseases.¹ In literature, there are various techniques described for repairing patellar tendon ruptures while the most common method of treatment for quadricepsplasty is transpatellar repair.²⁻³

REPORT:

A 28 years-old gentleman with end stage renal disease and 3 years history of hemodialysis, came to our center with acute onset of bilateral knee pain and unable to weight bear for 2 months. He had history of fall in toilet prior admission.

Upon examination, he had tenderness over left bilateral knee. Radiograph over left knee showed patella alta with patella tendon calcification; while right knee radiograph showed patella baja with quadricep tendon calcification. Magnetic resonance imaging bilateral knees revealed complete osteotendinous rupture of both left patella tendon and contralateral quadricep tendon.

He underwent left patella tendon repair and right quadricep tendon repair. Intraoperatively, Krakow technique and 4 strands pull through Ethibond suture was done. A figure of eight augmentation was done over left tibial tuberosity and transpatella using 'cervix tape'. as fibertape wasn't available intraoperatively.

Right Quadricep tendon was repaired using Krakow technique and 4 strand pull through Ethibond sutures done. Quadricepsplasty was further reinforced by a Figure of eight

augmentation done over right transpatella and quadricep tendon using the autologous semitendinosus tendon graft.



Figure 1: Radiograph and MR imaging of Left and Right knee Preoperatively



Figure 2: Intraoperative Left Patella Repair Augmentation and Right Quadricepsplasty Augmentation

3 months post-operatively, patient bilateral knees were able to flex in range 0-110° actively and walking-frame ambulating

CONCLUSION:

Strong Augmentation and anatomical repair is necessary to decrease the of gap of osteotendinous junction over the ruptured site in renal-diseased-patient owing to the poor quality of the tendon and its attachment.⁴

REFERENCES:

1. Loehr J, Welsh RP. Spontaneous rupture of the quadriceps tendon and patellar ligament during treatment for chronic renal failure. *Can Med Assoc J* 1983;129:254–6.
2. Wener JA, Schein AJ. Simultaneous bilateral rupture of the patellar tendon and quadriceps expansions in systemic lupus erythematosus: a case report. *J Bone Joint Surg Am* 1974;56:823–4
3. Larson RV, Simonian PT. Semitendinosus augmentation of acute patellar tendon repair with immediate mobilization. *Am J Sports Med* 1995;23:82–6.
4. Ravalin RV, Mazzocca AD, Grady-Benson JC, et al. Biomechanical comparison of patellar tendon repairs in a cadaver model: an evaluation of gap formation at the repair site with cyclic loading. *Am J Sports Med* 2002;30:469–73.