

Case Description

We present a 41 year-old male with complaints of non-simultaneous bilateral patellar tendon ruptures status post similar surgical repairs. The first rupture(left) occurred 12 years prior to rupturing his right patellar tendon while playing basketball. He has a history of bilateral Jumper's Knee and chronic patellar pain/grinding for many years. The patient's brother also has a history of bilateral patellar tendon rupture, occurring simultaneously while playing basketball. Physical exam showed decreased left vastus medialis muscle bulk, increased patellar laxity, and first MCP hypermobility. Physical therapy was ordered for quadriceps strengthening. The patient was advised to avoid steroids and fluoroquinolones due to risk of tendon rupture. A general rheumatology screen was within normal limits. Ultrasound of left patellar tendon post-repair was insignificant, while right patellar tendon post-repair showed significant thickening and neovascularization of the tendon.

Imaging



Ultrasound of Right Patellar Tendon



Ultrasound of Left Patellar Tendon

Discussion

Bilateral patellar tendon ruptures are rare and have only been published in case studies(50). In most cases, chronic systemic diseases like RA, SLE, and chronic renal disease have been implicated. Iatrogenic risk factors include long-term corticosteroid, antibiotic use, and direct trauma. Our patient had none of these risk factors. Ultrasound findings were consistent with changes that could be caused from chronic microtraumas but, the thickening is significant. His brother having experienced a similar injury implies the presence of a genetic component predisposing them to patellar tendon rupture. Connective tissue disorder or further genetic screenings were not done.

Conclusions

Bilateral patellar tendon ruptures occurring in a patient and first degree relative has never been reported in medical literature. Ultrasound findings of his right patellar tendon, consistent with repeated microtrauma to his knee, probably predisposed him to tendon rupture. Given the results and history, there is likely an undiscovered genetic factor also predisposing him to patellar tendon rupture.

References

1. Tarazi, Nadim et al. "A Rare Case of Bilateral Patellar Tendon Ruptures: A Case Report and Literature Review." *Case reports in orthopedics* vol. 2016 (2016): 6912968. doi:10.1155/2016/6912968
2. Barner, Kyle L et al. "Simultaneous Bilateral Rupture of Patellar Tendons in a Young Man Without Predisposing Factors or Systemic Disease." *Cureus* vol. 11,8 e5469. 23 Aug. 2019, doi:10.7759/cureus.5469
3. Lu, Hua-Ding et al. "Simultaneous bilateral patellar tendon rupture without predisposing systemic disease or steroid use: a case report." *Chinese journal of traumatology = Zhonghua chuang shang za zhi* vol. 15,1 (2012): 54-8.
4. Kellersmann, Richard et al. "Bilateral patellar tendon rupture without predisposing systemic disease or steroid use: a case report and review of the literature." *Archives of orthopaedic and trauma surgery* vol. 125,2 (2005): 127-33. doi:10.1007/s00402-004-0782-2

