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Bilateralpatellar tendon rupture in a young sport

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ABSTRACT

Simultaneous rupture of the two patellartendons are exceptional in sports young people without predisposing systemic disease. Diagnosis is essentially clinical help with radiography. Surgical treatment gives good result. We report a case of a 35 years old young sport with a subcutaneousbilateral rupture of the patellar tendon.

Introduction

Bilateralpatellar tendon rupture isexceptional in sports . It isoftenassociatedwithrheumaticdiseases, kidneydisease or takingsteroids long termuse .

We report the case of abilateral rupture of the patellar tendon in a youngathletewithoutpathologicalantecedents.

Observation :

This is a youngathlete 35 years, without significant medicalhistory and no history of drugintake(corticosteroid , quinolone), whichduring a workout session on the legpress machine suddenlyfelt a sharp pain the end of the extension of bothknees . Transferred to emergencies , clinical examination foundedema and bilateralbruiseswith a total deficit of active extension in bothknees . Palpation objectified a hiatus in patella on bothsides. A radiograph(fig 1 , 2,3) practiced in emergency showedbilateralpatellar ascension.

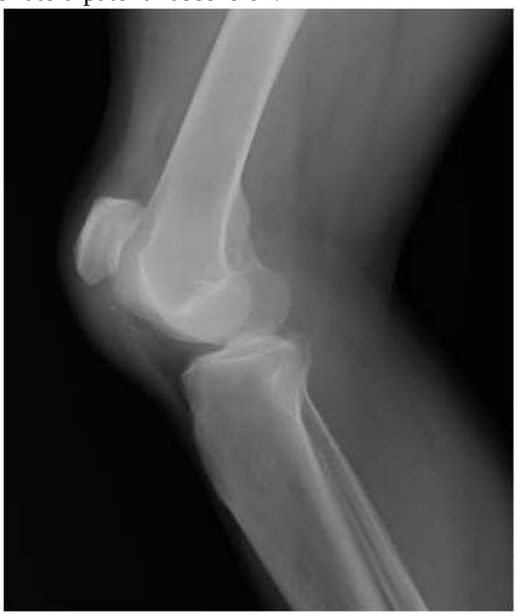

Figure 1 shows a profile view of the right patella Alta

The patient was operatedurgently ,bilateralpatellar tendon repairwithtwo simple sutures wasperformed , and protected by a strappingsteelwire 30 degrees of flexion . Radiographic control (fig4 5.6) showed good positioning of twoballs .

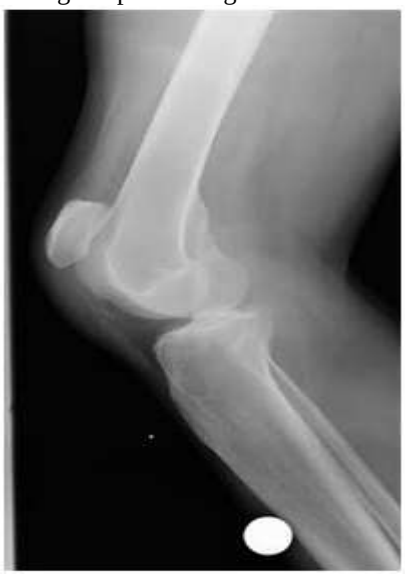

Figure 2:showing a profile view of the left patella Alta

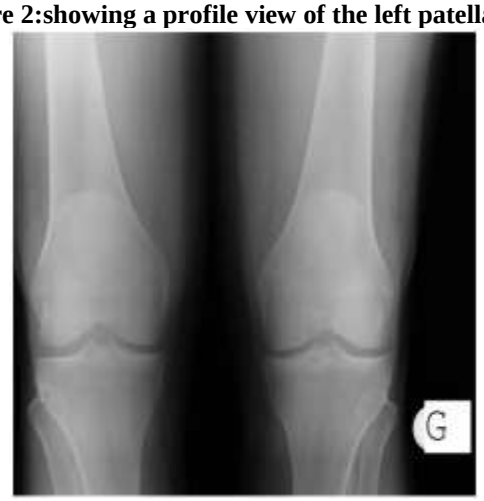

Figure 3: Front view of twokneesshowing, as the rise of twoball joints

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Post operatively both kneeswere immobilized in a knee, passive mobilization up to 60 ° wasstarted on day 1 . Steel son were removed after 6 weeks, allowing an expansion of the sector up to 120 ° flexion. The resumption of sport was allowed gradually from the 7th month .

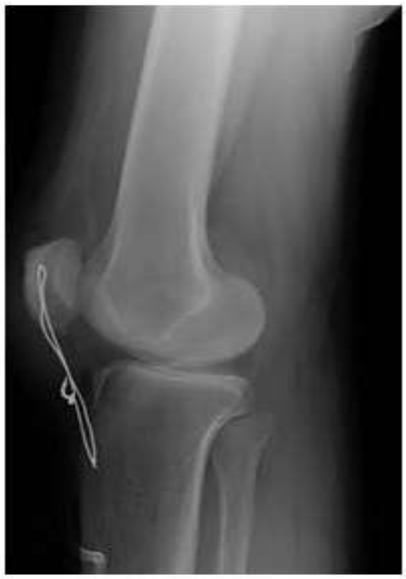

Figure 4 : Postoperativeradiographshowing a profile of patella in anatomical position on the right with a cerclage .

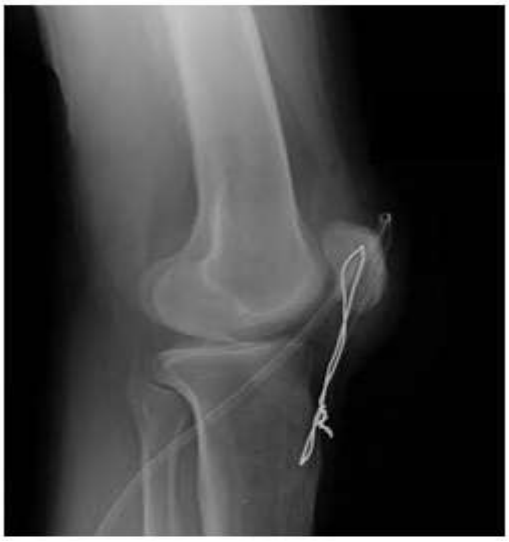

Figure 5 : Post operative radiograph showing a profile of the left patella in anatomical position with strapping

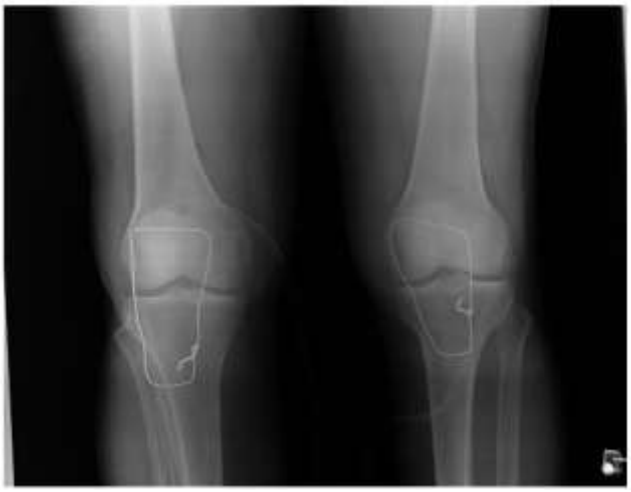

Figure 6 : Postoperativeradiographshowingboth front patella fixed by strapping

Discussion:

Bilateralpatellar tendon rupture is very rare. Fifty cases have been reported in the literature[1] . They are often associated with systemic diseases or prolonged use of corticosteroids [2,3] .Very few cases reported in patients without diseasehistory or drugconsumption.

Rupture of the patellar tendon is the 3rd leading cause of rupture of the extensor tendon ruptures after quadriceps and fractures ball [4] . The mechanism of theiroccurringis a violent eccentric contraction of the quadriceps on a flexedknee(jump landing , raisingcrouch ...) [5] , whichisexactly the mechanism described by our patient.

The clinicalsigns are summarized in pain ,swelling and a lowdegree of extension [6,7] . The symmetry of the clinicalsigns in this case may obscure the diagnosis .Siwek and Rao [8] found that 28% of bilateralpatellar tendon ruptures were not diagnosedduring the initial exam.

The radiologicaldiagnosis of bilateraldiseasebased on the presence of a patella Alta on lateralradiographs in slight flexion where the Insall - Salvati ratio (length of the patella / patellar tendon length)canbecalculated [9] . Lessthan 0.8 ratio isequivalent to a patella Alta. MRI or ultra sound can assistdiagnosis in difficult cases or seenlate .

The pathophysiological basis of the patellar rupture are dividedinto 3 groups in the literature . The first group includes patients withautoimmune or systemicdiseaseswhich have a very high risk of bilateral rupture of the patellartendon. Among these diseases are spread cites lupus erythematosus, inflammatory rheumatism, chronicrenal failure, hyperparathyroidism and diabetesmellitus. Thesediseases cause inflammatoryreactionsthat alter the ultra tendon structure [10]. The second group isrepresented by those patients intravenous or oral corticosteroids. These drugs have the ability to alter the synthesis of collagen and blood flow to the tendon which causes embrittlement[2 , 4,11] . The third group includes patients who have no pathologicalhistory. Davidson [12] thoughtthat in thiscategory of patients the cause of the failureis due to repetitivestrain injuries.

The emergency surgicaltreatmentismandatory [13] ,because the orthopedic treatmentis ineffective . [5] It isbased on simple sutures tendon or transosseous sutures in case of removal. Sutures must be protected by a consistently framing preferably using a nonabsorbableyarnratherthan the wire[14] . And patellarheightadjustment must be made on intraoperative photographs to 30 ° of flexion as recommended Ait Si Selmi and Neyret [15] .

The current trend in post -operative and minimizing downtime because it causes joint stiffness and muscle atrophyquadicipitale [16]. There is no consensus post operative rehabilitation but mostauthorsagree on the objective of having 90 degrees of flexion atday45 .

The results of surgicaltreatment of freshfractures ,however with a satisfactory return to sport canbeat 6 months [14] .

Conclusion :

Bilateral rupture of the patellar tendon isvery rare and even more rare in patients withoutpathologicalpast. The clinicaldiagnosisis not alwayseasy and surgicaltreatmentusually leads to very good results if undertakenurgently.

Conflict of Interest

The authorsdeclare no conflict of interest.

Contributions of authors

The lead authoris Dr. IssamELOUAKILI .

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