Case presentation

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KNEE PAIN AFTER SPORTS PRACTICE

A 23-year-old male recreational athlete (he plays basketball weekly and is a National League referee), consulted for patellofemoral pain in his right knee during sports practice. He did not report any history of trauma.

Upon physical examination, marked hypotrophy of the vastus medialis obliquus of the right quadriceps could be seen. The patient had pain on resisted strength tests, due to great weakness. He did not refer to previous pathologies in the right knee, nor had he suffered from low back pain, due to quadriceps atrophy (Figure 1).

Figure 1. Isometric test of the quadriceps, in which the agenesis of the vastus medialis is observed.

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Measurements of the thigh perimeter were made at 10 centimeters from the patella, with the determination of the circumference in relaxation and isometry. A Cybex isokinetic test was performed to assess the bilateral isokinetic strength of the quadriceps at three torque speeds, at 90°, 180°, and 360° (Figure 2).

Figure 2. Dynamic single-leg squat test showing vastus medialis agenesis on the right quadriceps.

A slight varus alignment of the right lower limb was observed. The possible presence of exaggerated femoral anteversion or external tibial rotation allowed us to observe right patellar strabismus.

The assessment of Cruveilhier's quadriceps angle (Q angle) is essential to quantify these alterations. In our patient, it was found to be increased. The tone and trophism of the vastus medialis were found to be decreased compared to the healthy side.

The palpation of both the medial and lateral articular facets of the patella was painful. The patellar pain was aroused by forcing active extension against the resistance of the knee, as the patella was impacted against the trochlea. Further positivity can be achieved by having the patient flex the knee under weight (when squatting), a maneuver that helps determine the angle at which pain occurs.

The longitudinal brush sign was performed, which caused pain when moving the patella longitudinally with the knee flexed at 30° and palpable and audible crepitus was found. In addition, the transverse brush sign was evaluated in the same way as with the previous sign, moving the patella transversely. This sign can be confused with the Smillie sign, in which pain, apprehension or fear, and defensive reflexes are elicited. Great shortening of the rectus femoris and psoas muscles was also observed.

Anteroposterior and lateral radiographs were requested, which were negative, as well as an axial study of both patellas at 20° and 45° (Figure 3).

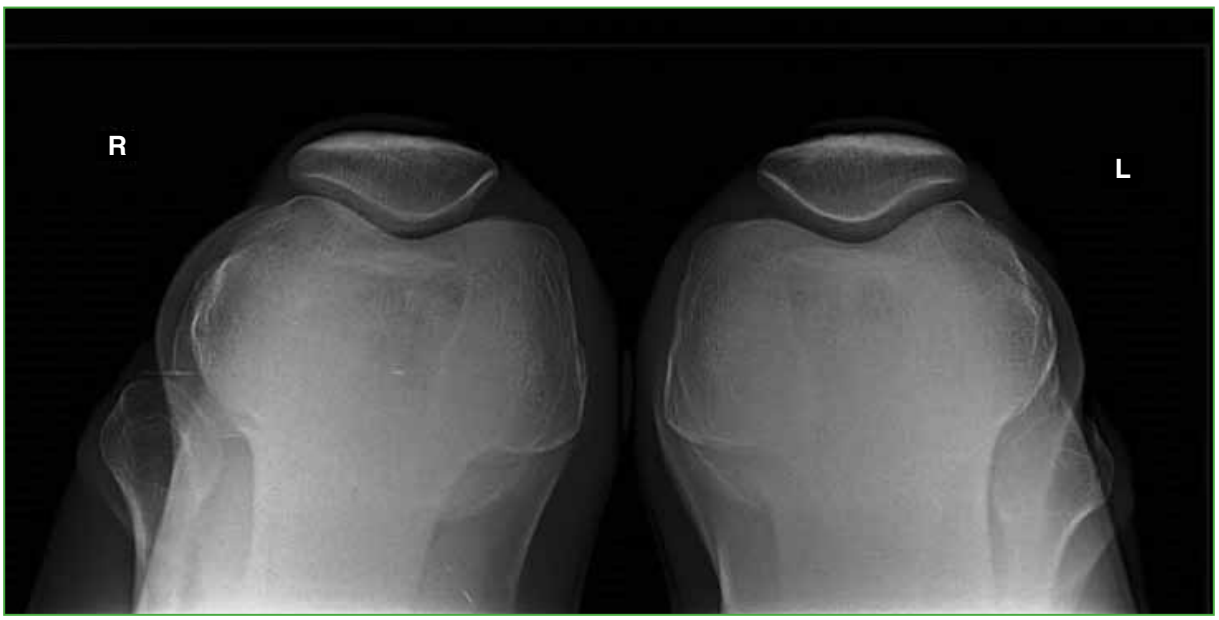

Figure 3. Axial patella at 30°. The axial radiograph shows a slight lateral inclination on the right knee, with decreased space between the external patellar aspect and the external femoral condyle.

We requested a knee MRI to make a comparative study of the diameters of the vastus medialis of both thighs with Tesla 1.5 Philips equipment.