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Young men with bilateral pain in the lower part of patella

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Male patient, 34 years old, without significant family history, diagnosed with autoimmune hepatitis and treated with high dose of corticosteroids for about 2 years, tapered to 5 mg per day, was admitted to our clinic for knees tenderness, with a predominance in the right one. The pain was increasing with activity, especially when extending the knee against force, like stair climbing and jumping. The clinical examination revealed nothing but tenderness in the patellar tendon insertion on the patella. Laboratory tests showed no inflammatory syndrome, with an erythrocyte sedimentation rate of 7 mm/1h and C-reactive protein 0,2 mg/dl and no changes in the other tests (serum uric acid, RF, blood glucose), including normal ASAT and ALAT. Ultrasound examination showed no significant changes in the upper knee, with just a slight bilateral amount of fluid in the lateral parapatellar boursa. The lower knee examination revealed bilaterally an enlargement of the proximal part of the patellar tendon and big irregularities of the distal kneecap (patella) and important hyperechoic line inside the tendon, with acoustic shadowing (fig 1, fig 2). There was no pathological Doppler signal finding at the level of the knee.

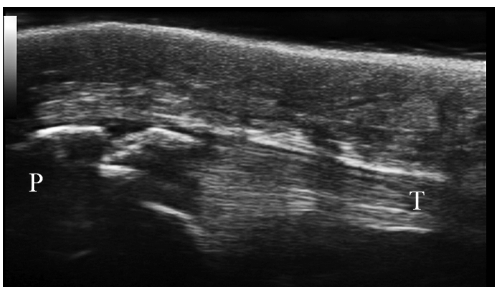


Fig 1. Longitudinal scan of the right knee. P- patella, T- patellar tendon.

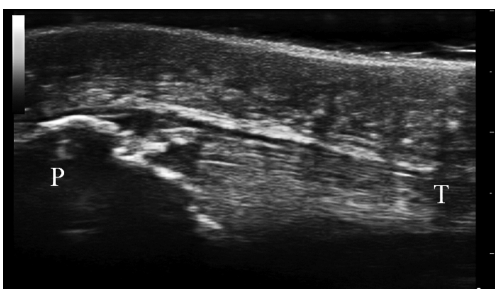


Fig 2. Longitudinal scan of the left knee. P- patella, T- patellar tendon

Questions:

1. What is the diagnosis that could explain these changes?
2. What question in the anamnesis could be revelatory for the case?
3. What differential diagnostics should be done?
4. What are the recommendations for the patients?

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Answer QUIZ vol 15, no. 2

Tumoral masses of the ankle tendon sheath

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1. What is the diagnosis?

The two tumoral masses have the ultrasound characteristics of tophi. There is also fluid in posterior tibial tendon sheath (exudative tenosynovitis).

Tophaceus deposits may show various degrees of echogenicity according to their density. They vary from soft tophi, which typically have various degrees of echogenicity and are soft to palpation, to hard tophi, which contains monosodium urate deposits which appear as a hyperechoic mass with acoustic shadow (this is our patient's case) and have a harder consistency to palpation. Although it is already known that tophi may be found everywhere in the musculoskeletal system, their presence in the tendon sheath is less frequent. Generally the monosodium urate deposits are located in the hyaline cartilage, joints and tendons.

2. What other investigations do you consider necessary for the final diagnosis?

Ultrasonography plays an important role in the diagnosis of rheumatic conditions, not only by visualizing the pathology, but also guiding the aspiration of minimal amounts of fluid from joints and periarticular collections. We aspirated 3 ml of whitish fluid from tendon sheath, and the fluid was examined in polarized light microscopy. The obtained aspect of bright yellow needle- shaped objects when parallel to the access of slow vibration on the first compensator, characteristic for monosodium urate crystals, confirmed the diagnosis of gout.

Another useful investigation for the diagnosis might be the tumoral mass biopsy and examination with compensated polarized light microscopy.

3. What are the particular features of the case?

In the presented case, we can point out the particular location of the tophi in the tendon sheath, in the absence of the characteristic signs in the hyaline cartilage or MTF I joint.

We may consider a particular feature of the case the fact that the diagnosis of gout was established in an advanced stage (tophaceous gout). Probably, the patient had in his history episodic symptoms of gout, but, in an atipical manner, so mild that did not require a medical examination.