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Bilateral hack sign not necessarily implies paraparesis



No hay señal de hackeo bilateral implica necesariamente paraparesia

Dear Editor,

We read with interest the article by González Martín et al.¹ about a 50-year-old man with partial rupture of the right quadriceps tendon and complete rupture of the left quadriceps tendon after a thoraco-lumbar trauma due to an accidental fall from a height of approximately 2 m. Immediately after the trauma, the patient reported paraparesis and was unable to walk. Work-up by traumatologists was non-informative. Three weeks after the trauma, bilateral hack sign was observed and the patient was diagnosed with (partial) rupture of the quadriceps tendon. He underwent tendon repair, with a favourable outcome. The study is interesting, but raises concerns that should be discussed.

There is a discrepancy between the clinical neurological examination revealing weakness (MRC 4+) for knee extension and hip flexion on the right side (partial rupture of the quadriceps tendon) and normal muscle strength (MRC 5) for left knee extension and hip flexion, and the diagnosis of paraparesis.¹ As, according to the description of the neurological examination, there was no muscle weakness in the left lower limb, the diagnosis of paraparesis is not comprehensible.

There is also a discrepancy between the neurological examination showing normal knee extension on the left side and total quadriceps tendon rupture on the left side. In the event of quadriceps tendon rupture, a patient should not be able to extend his knee. It should be clarified if surgeons truly found total rupture during inspection of the site.

Furthermore, a patient with only mild weakness on flexion and knee extension on one side should be able to stand and walk. Since only incomplete rupture of the quadriceps tendon was observed on the right side, the patient should have been able to stand, at least on the right leg. This discrepancy should also be addressed.

A limitation of the study is that the authors do not mention whether the patient underwent tendon repair on the left side only or bilaterally. Complete rupture of the quadriceps tendon requires surgical intervention, whereas incomplete rupture is usually treated conservatively. As the patient had incomplete rupture of the right quadriceps tendon, it is very likely that surgery was carried out only on the left side. However, this uncertainty requires clarification.

It is also unclear why it took 3 weeks, during which the patient was unable to stand or walk, before comprehen-

sive diagnostic work-up was initiated. An alert patient with preserved cognitive and intellectual abilities should attend hospital earlier. Did the patient present cognitive impairment?

Overall, this interesting study has limitations that call the results and their interpretation into question. Addressing these limitations could further strengthen and reinforce the statement of the study. Paraparesis can be diagnosed only if there is weakness in both limbs, mild proximal weakness of one leg should not prevent the patient from standing, and rupture of a quadriceps tendon should not be associated with normal knee extension.

CRedit authorship contribution statement

JF: design, literature search, discussion, first draft, critical comments, final approval; FS and A-CA: literature search, discussion, critical comments, final approval.

Ethical approval

The study was conducted in accordance with ethical guidelines. The study was approved by the institutional review board.

Consent to participate

Consent to participate was obtained from the patient.

Consent for publication

Consent for publication was obtained from the patient.

Funding

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Conflicts of interest

None declared.

Data availability

All data are available from the corresponding author.

Code availability

Not applicable.

Reference

1. González Martín L, Abenza Abildua MJ, Almarcha Menargues ML, Martínez Brandulas P. Bilateral quadriceps tendon rupture as unusual cause of acute paraparesis. *Neurologia* (Engl Ed). 2022;37:606–8, <http://dx.doi.org/10.1016/j.nrleng.2021.11.002>.

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