

CASE REPORT OF ISOLATED RECTUS FEMORIS ATROPHY

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1. Introduction :

Non-traumatic neuromuscular lesions located in only one muscular portion of the quadriceps are rare and poorly described in literature.

3. Case report :

- Male patient (44 years old).
- Isolated atrophy of the right rectus femoris.
- No pain nor history of previous traumatic event.
- Occasional paraesthesias on anterior right thigh.
- Normal clinical examination except presence of the atrophy of the right rectus femoris and the decrease of force on specific testing.

4. Complementary examinations :

- Electromyographic exploration of the lower limbs.
- Medical imagery : echography and MRI.
- Isokinetic study performed on Cybex® device. The evaluation of flexors and extensors of the knee was bilateral in concentric mode at 60°/s and 240°/s. To have a more sensitive evaluation of the rectus femoris, we did the test in the lying supine position in addition to the classical sitting position.

2. Aim :

The goal of our study was to investigate the possible causes of this pathology and to objectively quantify the functional consequences of this isolated atrophy of the rectus femoris on the total muscular performances of the quadriceps.

5. Results :

Imagery explorations showed the atrophy of the right rectus femoris combined with fatty degeneration but these examinations did not enable us to determine the actual etiology (Fig. 1-3).

Therefore, a precise diagnosis was not possible, even if the EMG confirmed the presence of important signs of specific and isolated denervation only in the right rectus femoris (Fig. 4 & 5).

The isokinetic test, performed in the classical sitting position, highlighted symmetrical performances for flexors of the knee and a moderate decrease in the right concentric quadriceps torque (-10%). A complementary isokinetic assessment, in a lying supine position, demonstrated a more marked deficit of this right quadriceps (higher than -30%) (Table 1).

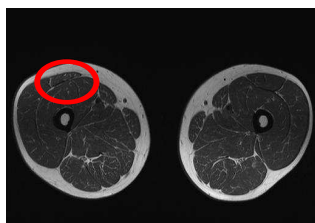


Fig. 1 : MRI T1 coronal



Fig. 2 : MRI T1 sagittal

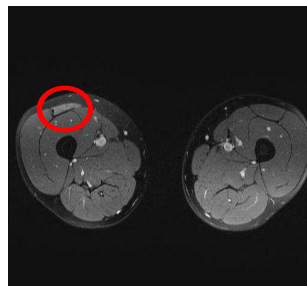


Fig. 3 : MRI T2 coronal

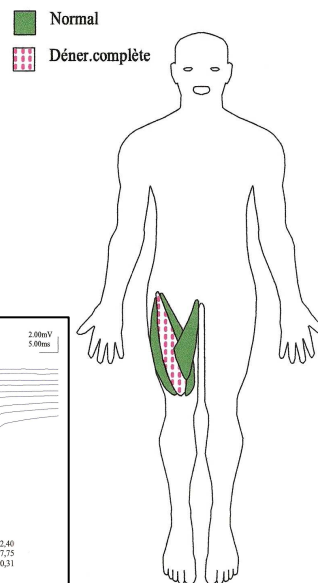


Fig. 5 : Muscle man EMC

Table 1 : Isokinetic results (peak torque in N.m)

Quadriceps	Position	Left (N.m)	Right (N.m)	Deficit (%)
Concentric 60°/s	sitting	204	186	-9
Concentric 240°/s	sitting	126	114	-10
Concentric 60°/s	lying supine	176	124	-30
Concentric 240%	lying supine	118	75	-36

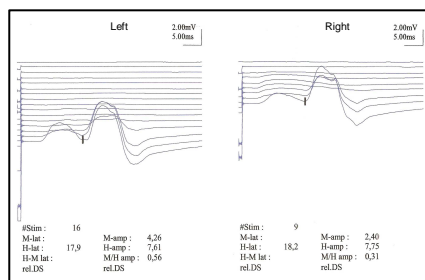


Fig. 4 : H reflex L 3L4

6. Conclusion :

No precise etiology was shown for this isolated atrophy from the right rectus femoris. Interestingly, we highlighted the importance of carrying out the isokinetic assessment in a lying supine position (by contrast with the classical sitting position) in order to preferentially investigate the rectus femoris performances.