Progressive fibrosis of the quadriceps muscle

This 15 year old boy presented when 3 years old because of maternal concern about “not walking right”. He was born at term weighing 2.4 kg, was admitted to the special care baby unit, and treated for septicaemia with intramuscular injections. A muscle biopsy showed patchy fibrosis and fatty infiltration, especially of the vastus lateralis and intermedius. He currently has about 90° of flexion in both knees. A muscle biopsy showed no acute inflammation and a predominance of type 1 fibres. Muscle enzymes and EMG studies were normal. A diagnosis of progressive fibrosis of the quadriceps muscles secondary to intramuscular injections was made. Reduction in flexion at both knee joints progressed rapidly. Bilateral quadroplasty was performed with the rectus femoris mainly affected.

Magnetic resonance imaging of his quadriceps (see fig) showed patchy fibrosis and fatty infiltration, especially of the vastus lateralis and intermedius.

Progressive fibrosis of the quadriceps muscle is a well-recognised condition. Several case reports have shown a link with intramuscular injections. Typically, the vastus intermedius and lateralis components of the quadriceps are affected. The vastus intermedius is enclosed in an osteofascial compartment and has a relatively poor blood supply. It is postulated that injection of large volumes of fluid into this confined space causes ischaemia, followed by necrosis, then fibrosis. Treatment involves early intensive physiotherapy and surgical intervention if severe.

This case highlights the importance of avoiding intramuscular injections if possible.

References


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