Volume : 1 | Issue : 2 | February 2012 ISSN : 2250 - 1991

Research Paper Medical Science

Bilateral Quadriceps Myofibrosis In An Adult Drug Addict Due To Multiple Intramuscular Injections.

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ABSTRACT

Quadriceps myofibrosis is found in young children and not in adults. It may be congenital, idiopathic, or due to multiple intramuscular injections. Literature search did not reveal any case of quadriceps myofibrosis due to multiple intramuscular injections in an adult. Herein we report a case of bilateral quadriceps myofibrosis developed in an adult as a result of self administration of multiple intramuscular injections. The patient was addicted to Pentazocine injection and used to take injection by himself on both thighs over a period of two years. Hence this article put forward the fact that though quadriceps myofibrosis is found in children, it might occur in adults who are addicted to drugs and take it intramuscularly.

Keywords : Quadriceps myofibrosis, multiple intramuscular injections.

Introduction

Quadriceps myofibrosis is found in young children and infants. It is not found to occur in adults. Herein we report a case of bilateral quadriceps myofibrosis developed in an adult as a result of self administration of multiple intramuscular injections. The patient was addicted to Pentazocine injection and used to take injection by himself on both thighs over a period of two years. Literature search did not reveal any case of quadriceps myofibrosis due to multiple intramuscular injections in an adult. Herein we report physical evaluation, radiological examination and MRI findings in an adult male patient.

Case Report:

A 33 year old male presented with a history of pain in both thighs and inability to flex both knees, unable to sit and unable to walk properly. He has developed progressive loss of flexion of both knees over a period of two years. His both lower limbs were completely normal two years back when he started taking Pentazocine injections intramuscularly over both thighs by himself. He got addicted to the drug and started taking multiple Pentazocine injections per day. Over a period of few months he started getting pain on flexion of knees and inability to completely flex the knees. Still he continued taking pentazocine injections and did not consult any physician for the same. Over two years he developed full blown contracture of quadriceps bilaterally with only 100 flexion at both the knees. There was no history of recent trauma. There was no family history of similar complaints. His gait is a stiff knee gait. Many dimples (puncture marks of multiple intramuscular injections) could be seen over both thighs (Figure 1). There was no swelling, warmth or tenderness on palpation. The muscle belly was thickened and very firm on palpation. both lower limbs were of equal length and only 100 flexion was possible at both the knees. (figure 1) Movement was not restricted by pain and even forcible attempts of flexion was not painful. Neurological examination was normal.

Radiographs of both knees were normal. Position of both patella were normal.(figure 2)Magnetic resonance imaging of the thighs demonstrated atrophy of the vastus lateralis with a thick fibrous structure anterolaterally located within the muscles. vastus medialis muscles were normal. There were fibrous bands at the vastus intermedialis and vastus lateralis muscles that limited flexion of both the knees. (figure 3)

Discussion:

Quadriceps myofibrosis is a clinical entity found in infants and young children which is characterized by alterations in the normal extensor mechanism of the knee joint resulting from fibrofatty replacement of the quadriceps muscle. 1 Most common age of onset of contracture of the quadriceps is between six months and two years.2

Quadriceps myofibrosis might occur due to

1) Congenital origin.4
2) Idiopathic.5
3) Repeated intramuscular injections.1, 2, 3, 6, 7.

Gunn showed that two-thirds of his patients received intramuscular injections of antibiotics, and early exploration revealed extensive fibrosis at the site of injection. 2

In the 404 cases of quadriceps myofibrosis that were reviewed by Alvarez et al, 311 (78 %) were caused by intramuscular injections and seven (7 %) were congenital while sixty-six cases (15 %) were idiopathic.1Therefore the most common cause of quadriceps myofibrosis is intramuscular injections second being idiopathic and least common being congenital.

Clinical presentation varies with age of the patient. At birth, they may present with I) a stiff extended knee; 2) congenital recurvatum of the knee joint; or 3) congenital dislocation of the knee joint. In the first few years after birth they might present with progressive loss of knee motion. In later childhood they present with habitual dislocation of the patella. In adults there may be a painful knee due to arthritis.3

Several mechanisms may be responsible for quadriceps myofibrosis. Trauma of repeated intramuscular injection can cause disruption of the muscle fibers and local necrosis (so-called needle myopathy). The injected drug might initiate local inflammatory process due to irritation. The addition of compression of the muscle bundles and capillaries brought about by the volume of the injected material, combined with the ensuing local edema and hemorrhage, can lead to more widespread ischemic changes in the muscles. Ischaemic area later on necroses and replaced by inelastic fibrous tissue which presents as muscle contracture.1

The presented patient was addicted to pentazocine injections and used to take injection by himself over both thighs. Over a period of few months progressive loss of flexion of both knees was noticed by him but he did not consult any physician. So the contractures progressed to the full extent of no flexion at both the knees.

Physical therapy was prescribed initially,but it was ineffective. Once the contracture is well established, surgical treatment is indicated.

We referred the patient to deaddiction center before operating with the assumption that he should be deaddicted before operating otherwise he might take injections in post operative period and contracture might recurr. Currently patient is taking treatment from deaddiction center.

The objective of this paper is to suggest that quadriceps contracture might develop in adults who are addicted to some drug and take it intramuscularly.

Figure 1: A to D

Restriction of knee joint flection in 33 year old male due to bilateral quadriceps myofobrosis. Only upto 100 of flection at both knee joints even after application of force.

Figure 1 A

Figure 1 B

Figure 1 C

Figure 1 D

Figure 2 : A to C

Radiographs of this patient

A: Radiograph of pelvis with both hips.

B : Radiograph of both femur with knee anteroposterior view.

C : Radiograph of both femur with knee anteroposterior view.

Figure 2 A

Figure 2 B

Figure 2 C

Figure 3: A to E

Magnetic resonance imaging of this patient

Figure 3 A: coronal section through both hips and femur showing fibrosis in vastus lateralis muscle.

Figure 3 B: coronal section through left femur and knee joint showing fibrosis in vastus lateralis muscle.

Figure 3 C : transverse section through distal third of femur.

Figure 3 D : coronal section through right femur and knee joint showing fibrosis in vastus lateralis muscle.

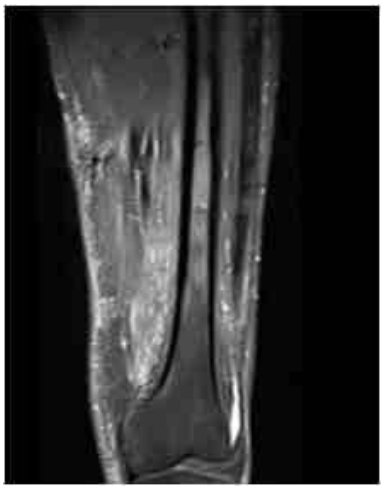

Figure 3 E transverse section through distal third of femur

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