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Case Report

Diabetic Muscle Infarction - A Case Report

Dr. J. Jayakumar*[Ψ] MD, Dr. M. Chakrapani[†] MD, Dr. Ajay Vidyasagar[‡] MD, Dr. Santhosh Rai[Φ] MD, Dr. M. R. Pavan[‡] MD and Dr. Meenakshi Shetty* MD

***Associate Professor, Department of Medicine, Kasturba Medical College, Manipal University, Mangalore, India**
[†]Professor, Department of Medicine, Kasturba Medical College, Manipal University, Mangalore, India
[‡]Assistant Professor, Department of Medicine, Kasturba Medical College, Manipal University, Mangalore, India
[Φ]Assistant Professor, Department of Radio diagnosis, Kasturba Medical College, Manipal University, Mangalore, India

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ABSTRACT: Diabetic muscle infarction is a rare complication in patients of long standing diabetes mellitus with multiple end organ microvascular sequelae. A case of a 69 year old lady with a 10 year history of diabetes mellitus, with sudden onset of right thigh pain is described here. This case illustrates the need for increasing awareness among clinicians for early recognition of diabetic muscle infarction.

Key words: Diabetic complications; Muscle infarction

INTRODUCTION

Diabetic muscle infarction is a rare complication of diabetes mellitus and is usually not included in most text books. This entity was first described in 1965. This condition remains under diagnosed mainly because of lack of awareness of this entity. The main aim of presenting this case is to call attention to this condition so that unnecessary invasive diagnostic testing, biopsy and surgical debridement which may lead to further complications, can be avoided.

CASE DETAILS

A 69 year old lady with 10 year history of diabetes mellitus and hypertension presented with history of pain in right thigh of 12 days duration. There was no preceding history of fever or trauma. Past medical history was significant for right hemiparesis secondary to ischemic stroke. She was on insulin, losartan, aspirin and atorvastatin. On examination there was tenderness and an area of induration in the right medial thigh. There was restriction of movement due to pain but power was normal. She also had mild non proliferative diabetic retinopathy and grade III hypertensive retinopathy. Serum creatinine was 1.2 mg/dl. Fasting blood sugar was 287 mg/dl. Total count: 9490 cells/mm^3. Erythrocyte sedimentation rate was 97 mm/hr. Glycated haemoglobin was 7%. Low density lipoprotein was 114 mg/dl. Blood Culture showed no growth. Ultra sound of thigh showed diffuse subcutaneous and intramuscular edema with loss of muscle architecture in posteromedial compartment of thigh and no evidence of abscess. Doppler did not show any evidence of deep vein thrombosis. MRI of thigh showed altered signal intensity involving the Sartorius muscle, adductor group of muscle, biceps muscle and vastus lateralis muscle of the right thigh (**Figure 1**). It was iso to hypointense on T1W1 and hyperintense on T2 and Fat-suppressed images. There was no evidence of osteomyelitis. With this a diagnosis of diabetic muscle infarction was made. She was treated conservatively with analgesics and rest and she improved.

[Ψ]**Correspondence at:** A-13, RNE Flats, Light House Hill Road, Mangalore-575003, India; Cell no. 09343351015; Email: jayakumarpsj2@yahoo.co.in

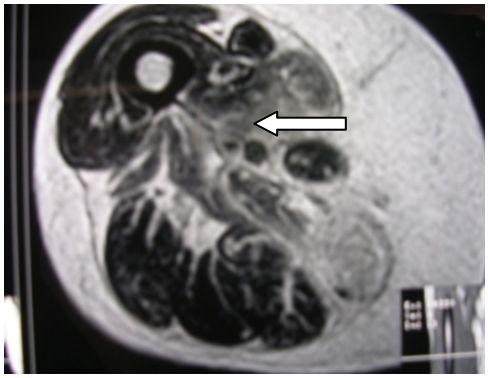

Figure 1: T-2 weighted image of right thigh

DISCUSSION

Diabetic muscle infarction is an uncommon complication of diabetes mellitus. It was first reported by Angervall and Stener in 1965. Diabetic muscle infarction usually presents in patients with a long history of diabetes with an abrupt onset of severe pain with or without swelling in the leg. Our patient had a 10 year history of being diagnosed as diabetes. This usually occurs in the absence of fever or trauma. 98% of cases are found to have swelling and tenderness of the involved muscles. A palpable mass of indurated area is felt in 44 % of cases.[1] Our patient also presented with a painful indurated swelling of thigh. The quadriceps compartment is most frequently involved, followed by thigh adductors and hamstrings, with only occasional involvement of calf muscle.[2]

The diagnostic investigation of choice is the MRI scan. In the T2 weighted sequences, it shows high intensity in the involved muscle with diffuse enlargement of involved muscle groups and partial loss of normal fatty intermuscular septa.The T1 weighted images show isointense or hypointense images. Other features seen are diffuse enlargement with ill-defined borders and tiny foci of hyperintense signal consistent with foci of hemorrhage. Muscle biopsy shows large areas of muscle necrosis.[3] The MRI done in our patient also showed the above mentioned features. Muscle biopsy and surgery should be avoided despite the severe presentation because these interventions can prolong resolution or temporarily worsen the patient's symptoms. The pathogenesis of Diabetic muscle infarction remains to be wholly clarified. Occlusive arteriosclerosis has been postulated to have a major role in diabetic muscle infarction.[4] However, some authors have shown an alteration in the form of hypercoagulability, and impaired response to tissue plasminogen activator.[5] This clinical entity requires conservative management with bed rest and analgesics and minimal intervention to avoid complications and prolonged hospitalization. Unfortunately, diabetic muscle infarction recurs in about one-half of patients. The overall prognosis for these patients may be related to the severity of their underlying diabetes and the degree of macrovascular and especially microvascular complications.[6] Some of the common conditions diabetic muscle infarction can be confused with are deep vein thrombosis, cellulitis, pyomyositis, soft tissue abscess, benign tumours or sarcomas of the muscle, diabetic amyotrophy and osteomyelitis. Hence a strong suspicion of this condition is required and followed by early noninvasive diagnosis in the form of MRI without which this diagnosis may be missed. This is important as the treatment is entirely different for diabetic muscle infarction when compared to the other differential diagnosis mentioned.

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