Rhabdomyolysis and Dengue Fever: Is This More Common Than We Think?

The Editor,

Sir,

Rhabdomyolysis is a recognized complication of several viral infections including influenza A and B, coxsackievirus, Epstein-Barr virus and HIV (1, 2). These viruses are thought to cause severe myositis through the production of myotoxic cytokines, particularly tumour necrosis factor and interferon alpha (2). The occurrence of rhabdomyolysis in patients with dengue fever has been reported in the literature on a number of occasions, but this complication is not often mentioned in textbooks or review articles (2, 3). We have previously reported on a case from Jamaica in which this complication was seen (4). We now report another case of a 10-year old girl in Barbados. We believe that this report will raise awareness with regards to this complication of dengue fever, especially in light of the relative frequency of dengue fever in the Caribbean region where the *Aedes egypti* mosquito is endemic (5).

The case is that of a 10-year old girl who presented to her general practitioner complaining of a generalized, pruritic rash on her arms, legs, face and trunk for two days. This was accompanied by muscle aches and joint pains and was preceded by a one-week history of malaise, fever, headache, backache, lethargy and decreased appetite. On examination, her vital signs were normal and her clinical examination was normal except for a fine, erythematous, papular rash along the sides of her face, the lateral aspects of her upper limbs and the anterior aspects of her lower thighs and legs. The tourniquet test was negative. Urine passed for dipstick was pepsi-coloured with 3^+ blood and 3^+ protein.

The patient was subsequently admitted to a local hospital with a presumptive diagnosis of rhabdomyolysis secondary to dengue fever. Laboratory investigations showed a haemoglobin of 13.3 g/dL, haematocrit 39.9%, white blood cell count (WBC) 4.8×10^9/L, platelet count 279×10^9/L. Serum creatine phosphokinase (CPK) was 167 730 U/L on presentation and peaked at 374 264 U/L. Aspartate transaminase and alanine transaminase levels were also elevated with peaks of 1152 and 557 U/L, respectively. Though urine dipstick was positive for blood, there were no red blood cells seen on urine microscopy, thus suggesting myoglobinuria. Serum urea and creatinine remained normal throughout the admission. Ultrasound scan revealed normal kidneys. Dengue IgM was positive while dengue IgG was negative.

The patient was managed with intravenous fluids and sodium bicarbonate for alkalinization of urine. Creatine phosphokinase steadily declined throughout admission. She remained well with no myoglobinuric renal failure and made a complete, uneventful recovery.

The finding of this second case in the Caribbean raises the question of whether this complication may be more common than we think and whether careful evaluation may unearth more cases. Since the publication of our earlier case report, at least five other case reports have been published (6–10). Additionally, in a review of 300 patients with dengue fever in Kolkata, India, it was found that 0.66% of cases had rhabdomyolysis or myositis (11). We note that this complication of dengue fever can result in multi-organ failure and is often fatal (2–4, 9). Given the potential for adverse outcomes in these patients, a comprehensive review of cases of dengue fever admitted to hospitals in the Caribbean would be informative. Until definitive answers can be obtained, we recommend that all patients with confirmed or suspected dengue fever should have a urinalysis with microscopy and laboratory testing for CPK as part of their routine evaluation. In this way, we would be able to detect cases in the early stage of this complication and thus prevent the potentially grave adverse outcomes reported in other studies.

Keywords: Creatine phosphokinase, dengue fever, rhabdomyolysis

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DOI: 10.7727/wimj.2014.184

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Parameniscal Cyst – A Rare Cause of Popliteal Artery Compression: Treatment with Ultrasound-guided Decompression

The Editor,

Sir,

We are presenting a case of parameniscal cyst causing popliteal artery compression, which was managed successfully with excision of the parameniscal cyst, and ultrasound-guided aspiration. We believe this to be the first reported case in the literature.

Cystic lesions within the knee are quite common (1, 2). These include parameniscal cysts, ganglion cysts and Baker's cyst. Parameniscal cysts can present with pain, as a soft tissue lump and mimic a soft tissue neoplasm (2, 3).

A 43-year old fit and healthy male presented to the orthopaedic surgeon with a two-month history of medial knee pain, lump and symptoms of claudication. McMurray's test was positive. Magnetic resonance imaging (MRI) was arranged which demonstrated a horizontal cleavage tear involving the anterior horn, body and posterior horn of the medial meniscus. A large parameniscal cyst was also noted on the medial aspect intimately related to the medial meniscus and extending posteriorly into the popliteal fossa which caused at least 60% diametric compression of the popliteal artery (Fig. 1).

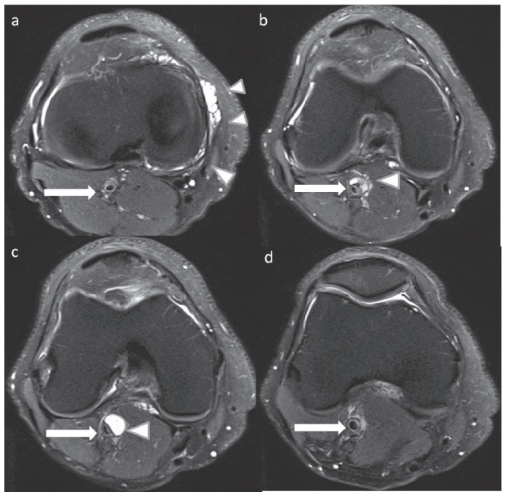

Fig. 1: STIR axial of the knee demonstrating the parameniscal cyst (arrow head) with the medial and posterior component. The posterior component is demonstrated to compress the popliteal artery (arrow); **A** to **D** are cranial to caudal slices.

An ultrasound confirmed the MRI findings (Fig. 2). The patient subsequently underwent knee arthroscopy, partial menisectomy and excision of the medial component of the parameniscal cyst. This was followed by an ultrasound-guided aspiration and injection of 40 mg of triamcinolone and 0.5% bupivacaine of the posterior compressive component of the parameniscal cyst. The patient reported complete resolution of symptoms of claudication following the procedure. He was discharged and at the six-month follow-up, there was no recurrence of symptoms.

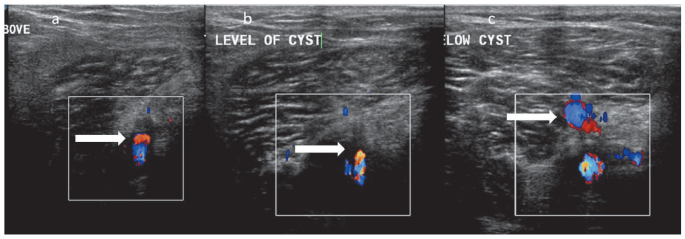

Fig. 2: Axial ultrasound images of the popliteal artery demonstrating compression of the popliteal artery by the cyst (**B**) as noted on magnetic resonance imaging; (**A**) above level of cyst and (**C**) is below the level of the cyst.

The aetiology of a parameniscal cyst includes degenerative disease and trauma. The prevalence of parameniscal cyst is 4% with a male predominance and cysts may present in a variety of ways including knee pain or mimics of soft tissue masses. It is managed by open excision or arthroscopic decompression with concomitant partial menisectomy (2, 3).

In the present case, the compressive nature of the cyst resulted in continued claudication symptoms in spite of arthroscopic partial menisectomy. An open excision through the popliteal fossa would have been both complex and fraught with potential surgical complications. In the evaluation of a patient with claudication, in addition to other causes, one should consider the rare condition of parameniscal cyst in the differentials.

Imaging and image-guided intervention are useful adjuncts providing minimally invasive treatment for the symptomatic relief of complex parameniscal lesions, especially in cases where lesions extend to adjacent large vessels, to prevent complex surgical intervention.

Keywords: Compression, paramensical cyst, popliteal artery, ultrasound

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