

A Rare Case Due to Intramuscular Diclofenac Injection: Necrotizing Fasciitis, Rhabdomyolysis and Acute Kidney Injury

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Background: Necrotizing fasciitis which is the mortal complication of soft tissue infections due to after injection. In past, some cases were reported who had necrotizing fasciitis and rhabdomyolysis due to intramuscular and intraarticular injection. In our cases, we mention about, concurrently rhabdomyolysis and necrotizing fasciitis were seen after diclofenac drug intramuscular injection.

Case Presentation: We report herein a fatal case of progressive necrotizing fasciitis and rhabdomyolysis cause of acute kidney injury after intramuscular diclofenac injection, to the best of our knowledge, both acute kidney injury due to rhabdomyolysis and necrotizing fasciitis after intramuscular diclofenac injection are reported for the first time in this case.

Keywords: Acute kidney injury, diclofenac, intramuscular injection, necrotizing fasciitis, rhabdomyolysis

Introduction

Intramuscular injection is an useful and easy way to administer various drugs in daily practice (1). These injections have also some undesired effects such as soft tissue damage, pain in injection area, cellulitis, subcutaneous abscesses and necrotizing fasciitis. Tissue necrosis typically becomes a few days after injection (2). Necrotizing fasciitis is a high mortal infection described that rapidly spreading with necrosis of fascia and subcutaneous fat. There are a few case reports in literature necrotizing fasciitis following intramuscular injection (3, 5).

Rhabdomyolysis is a syndrome characterized by muscle necrosis and the release of intracellular muscle constituents into systemic circulation. Creatine kinase levels typically elevated, muscle pain and myoglobinuria may be present. It ranges from asymptomatic muscle enzyme elevations to acute kidney injury (6). There are a few reports in literature that rhabdomyolysis following diclofenac administration (2, 7). We report herein a fatal case of progressive necrotizing fasciitis and rhabdomyolysis cause of acute kidney injury after intramuscular diclofenac injection, to the best of our knowledge,

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both acute kidney injury due to rhabdomyolysis and necrotizing fasciitis after intramuscular diclofenac injection are reported for the first time in this case.

Case Presentation

A 37-year-old man was accepted to our emergency services with fatigue, nausea, vomiting, pain and swelling in his right leg. He received intramuscular injection of diclofenac in his right leg 2 days ago. There was no chronic disease or continuous drug use in past medical history. On admission his vital signs as follows: blood pressure 90/60mm/Hg, heart rate 96 beats/min, body temperature 37°C, respiratory rate 18 breaths/min. Physical examination was remarkable for severe right leg tenderness, swelling and pain. Laboratory analysis showed white blood cell count: 46000/mm³ platelet count: 42000/mm³ serum creatinine: 5.05 mmol/L serum creatinine kinase: 3815 U/L. Urinalysis revealed myoglobinuria.

The patient was resuscitated with intravenous fluids. Urine output decreased and in short time his body temperature rising to 39°C. We initiated empiric intravenously meropenem and daptomycin antibiotherapy after taking samples for blood and urine cultures. Superficial ultrasonography and computed tomography scan revealed air bubbles and microabscesses among muscles of thigh. Patient general condition had rapidly deteriorated. At these circumstances he had gone to hemodialysis 2 hours. Then surgical debridement had been done immediately, samples sent for tissue culture, he was intubated and followed up in intensive care unit. Patient needed hemodialysis in all follow-up. Blood culture and urine culture were negative but tissue culture grew streptococcus viridans. After surgical debridement, patient general condition went on

critical. He was in septic shock and surgical team decided to amputate his leg. Although surgery was attempted the patient was extremely poor general condition and he went into respiratory arrest and died after 5 days following intramuscular injection.

Discussion

Necrotizing fasciitis is a highly mortal infection of superficial fascia. Many etiologies cause necrotizing fasciitis and several possible sources are iatrogenic. Intramuscular injection is one of the rare etiologies of necrotizing fasciitis. The skin necrosis pathogenesis is lack of end artery damage is a reasonable explanation. Majority of necrotizing fasciitis causes polymicrobial but main bacterial group is A beta-hemolytic streptococcus (1, 3).

In a retrospective study revealed necrotizing fasciitis due to intramuscular injection has poor prognosis, high amputation rates and high mortality. Also age, sex, extent of infection, diabetes, elevated serum creatinine and lactate levels are effective in prognosis (4, 5, 7).

In diagnosis x-ray, ultrasonography, ct-scan and mri have been used. In our case we used usg and ct-scan to diagnosis. Usg showed tissue edema and ct-scan showed air bubbles and microabscesses in tissue.

Rhabdomyolysis is characterized clinically by myalgias, red to brown urine due to myoglobinuria, and elevated serum muscle enzymes. Although clinical symptoms vary widely, the characteristic triad of complaints in rhabdomyolysis is muscle pain, weakness, and dark urine. In our case patient has elevated creatinine kinase, thigh pain, elevated serum creatinine and myoglobinuria in urine. In the past there are some cases of rhabdomyolysis due to intramuscular injection (1, 2). In a case report of injection drug

user massive tissue necrosis rhabdomyolysis and septic shock without fever had been reported (3). In our case patient had fever and tissue necrosis, differently In past there are some cases necrotizing fasciitis and rhabdomyolysis after intramuscular injection. In our case differently from past, both necrotizing fasciitis and acute kidney injury due to rhabdomyolysis occurred concurrently.

With this case report we point to a rare complication of intramuscular injections. Necrotizing fasciitis is often initially misdiagnosed as a more benign soft tissue infection. Most important variable influencing mortality is time to surgical debridement. Clinician should suspect and be aware of severity in these cases. Early diagnosis and surgical intervention can be life-saving.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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