



Post viral rhabdomyolysis – A case report

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Abstract:

Rhabdomyolysis clinically presents with muscle pain, weakness and high total creatine kinase (CK) levels. Sometimes, there are very high levels of CK-total due to progressive muscle injury. This may lead to life threatening conditions like acute renal failure and disseminated intravascular coagulation. This case report illustrates the promptness in early diagnosis & the management that led to prevention of complications.

Key words: Complications; Creatine kinase; Post viral infections; Rhabdomyolysis

Introduction

Rhabdomyolysis is a syndrome characterized by muscle necrosis and the release of intracellular muscle constituents into the circulation. Creatine kinase (CK) levels are typically markedly elevated. It may be associated with muscle pain and myoglobinuria [1].

Case report:-

A 26 years old male was admitted to the hospital with complaints of fever, throat pain, rhinorrhoea, weakness in all four limbs and muscle pain since 4-5 days. He had a history of viral infections 8 days back for which he was treated with anti malarial drugs and antibiotics. There was no history of trauma.

On examination, except fever, all other systems were within normal levels. He was started with symptomatic treatment as well as antibiotics. But within 10-12 hrs of admission, his muscle pain and weakness increased severely and he was not able to move his limbs. Serum CK total level was found to be 24,300 IU/L. Neurologist and nephrologists opinion was taken and patient was kept under observation for any deterioration of the central nervous system and renal system.

Daily serum CK – total and Sr. creatinine levels were done. He showed hematuria on 3rd day of

admission but urine myoglobin was absent. PT INR was normal which rules out the drugs as the cause of rhabdomyolysis [2]. Serum SGPT was also monitored.

Table No. 1 shows the investigation chart mainly focusing the CK-Total and Sr. creatinine levels along with SGPT, Bilirubin and urine myoglobin.

Diagnosis

Based on his history, clinical and laboratory findings, diagnosis of post viral rhabdomyolysis was confirmed.

Management

Treatment started with IV fluids, antipyretics, antibiotics. His general conditions improved day by day. Daily intake & output chart was recorded strictly. Hydration was maintained properly. Mannitol and soda bicarbonate was given to avoid renal injury.

On 16th day, he was discharged & was investigated on follow up. His serum CK level was declined significantly.

Discussion

There are multiple potential causes of Rhabdomyolysis, which can be broadly divided into:-

1. Traumatic with crush syndrome.
2. Non-traumatic exertion - marked exertion, hyperthermia.
3. Non traumatic non – exertional-e.g. drugs, infections.

Table 1:Serum CK total, creatinine, SGPT, and urine myoglobin from admission to follow up.

DAY OF ADMISSION	Sr. CK-TOTAL (IU/L)	Sr. CREATININE (mg/dl)	Sr. SGPT (IU/L)	URINE MYOGLOBIN
1	127.9	0.9	67.1	-
2	24,300	1.0	153.1	ABSENT
3	51660	0.9	490.8	-
4	72960	0.9	650.0	ABSENT
6	56560	1.2	990.0	-
7	24236	1.0	-	-
8	11740	0.9	-	-
10	11470	0.7	-	-
12	4468	0.7	239.6	-
15	1466	0.7	-	-
Follow up on 4 th day of discharge	331.6	0.8	88.9	-

The specific cause is frequently evident from the history or from the immediate circumstances preceding the disorder [1].

Numerous bacterial, Viral, fungal and protozoal infections can lead to rhabdomyolysis, viral infections as a cause have been described in many reports worldwide. Influenza A & B, Epstein Barr virus, echovirus, are the some of them[3].

The classic triad of symptoms includes muscle pain, weakness and dark urine. The most commonly involved muscle groups are calves and lower back. Although, history and examination can provide clues for the diagnosis of rhabdomyolysis, serum CK levels are the most sensitive indicator of myocyte injury. CK levels rise within 12 hrs. of onset of muscle injury, peaks in 1-3 days and declines 3-5 days after muscle

found on the fourth day (72,960IU/L). The peak CK levels (above 5000IU/L) are predictive of renal injury; hence urine myoglobin and sr. creatinine levels are also monitored in rhabdomyolysis[4]. Post viral rhabdomyolysis with very high CK levels (2, 30,600IU/L) has also been reported by Nicolette T. Pesik et al[5].

Hepatic dysfunction occurs in about 25% of patients with rhabdomyolysis. Protease released from injured muscle may be implicated in hepatic inflammation [6].

These patients need initial stabilization as well as prompt treatment to avoid acute renal failure. Drugs such as mannitol and bicarbonates can be used to avoid renal injury. Alkalinization of urine is also suggested. Free radical scavenging by antioxidants like vitamin E, Vitamin C, and selenium can be done.

In patients with development of ARF, daily dialysis may be required. Prompt diagnosis with history, laboratory investigations and management had helped in our case study to avoid complications.

Conclusion

Rhabdomyolysis is a potentially life threatening syndrome which can develop from a variety of causes. Clinical history, monitoring of serum CK levels and prompt management is required to prevent complications.

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