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Rhabdomyolysis: A Rare Complication of Enteric Fever

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Abstract: ***A Young Female presented with fever, diarrhea and acute renal failure in absence of hypovolemia, hypotension, hemolysis, thrombocytopenia and pre-existing renal disease with no past history of DM and Hypertension. P/S for malarial parasite and PfHRPantigentest was negative on evaluating further for cause of ARF, her CPK-TOTAL and urine for myoglobin found to be raised in absence of muscle weakness. On further investigation she was not found to be having any other risk factor for rhabdomyolysis like toxins, seizures, drugs, inflammatory Myopathy, vigorous exercise and family history of muscle disease. Her S. Igm for S. typhi and clot culture was positive and S. widal had an increasing titre for Enteric fever. She was treated successfully with antibiotics and sodium bicarbonate and was cured. Rhabdomyolysis is documented to be occure with infectious diseases and viruses are the most common cause of it. This is reported case of rare presentation of enteric fever as rhabdomyolysis.***

Keywords: Enteric Fever, Rhabdomyolysis, ARF

1.Introduction

Typhoid fever is endemic in India. Usual presentation includes fever, headache, abdominal pain and constipation or diarrhea. Extra-intestinal manifestations are not uncommon and involve variety of organ systems. Rhabdomyolysis is rare and has been reported in various Salmonella infections.

Rhabdomyolysis

Definiton: Rhabdomyolysis is breakdown of muscle fibre with leakage of potentially toxic cellular contents into systemic circulation by elevated CPK-Total and myoglobinuria leading to ARF. Causes Muscle exertion (seizures, exercise) Muscle Injury (trauma, electric shock, malignant hyperthermia) Infections (Influenza, legionella, enteric fever, dengue fever) Toxins and Drugs (ethanol, snake bite, statins, salisylates) Immunological diseases (polymyositis, dermatomyosities) Mechanism: Myoglobin cause intrarenal vasoconstrictions by scavengering Nitric Oxide. Myoglobin, a source of ferrihemate, which causes intratubular Obstruction. Direct tubular injury by production of OH.

2.Case History

A 22 year old female was admitted with fever for 4 days with diarrhea, vomitting and decreased urine output.

The illness began with fever which was initially low grade and then gradually increases over 3-4 days which was continuous in nature without any rash or bleeding manifestations.

Patint also had diarrhea with abdominal pain, watery in nature, not containing any blood, pus or mucus with 3-4 episodes/day associated with vomitting. She had c/o decreased urine output for last 1 day.

There was no complaint of weakness, muscleache, seizure, vigourous exercise or trauma. She had no past h/o DM, HT, hypothyroidism, or any drug, or allergic history. She had no signs of dehydration, chronic kidney disease or not taking any nephrotoxic medications.

Clinical Examination

Patient was conscious and well oriented. T-101'F

Pulse-114/min, BP-108/74mmHg,

RR-14/min

General examination-pallor, facial edema, periorbital puffiness with no signs of jaundice, clubbing cyanosis and lymphadenopathy.

Respiratory and CVS examination was normal.

Abdomen was soft, non distended without hepatosplenomegaly.

Investigations

Hb-8.8mg/dl,

WBC count-11500/cumm, platelets169000/cumm

P/S microcytic hypochromic RBC with no malarial parasite and fragmented RBC.

Urea-52mg/dl

Creatinine-2.42 mg/dl

Na 130 meq/L, K-5.3 meq/L

S. Bilirubin-0.7mg/dl, ALP 99 mg/dl, ALT 23mg/dl, Chest X-ray-normal. ECG tall T waves.

Initial stool examination was normal and urine was devoid of any cast, sediment or RBC., Urine for Hb-negative

Pf HRP for malarial parasite, Leptospira IgM and Dengue IgM were negative. S. typhi IgM-POSITIVE, Widal had increasing titre.

Blood culture and clot culture was sent.

After 3 days urine output decreased to 300 ml/d., dark in color. Urine for myoglobin 1158u/l.

CPK Total was 8590 u/l, clot culture was positive for S. typhi.

Diagnosis

With these findings, she was found to be suffering from Enteric Fever Complicated by Rhabdomyolysis and ARF.

Treatment

She was treated with i. v. antibiotics, i. v. fluids, and sodium bicarbonate infusion, creatinine remained static for 3 days, after that urine output increased with a decrease in creatinine. Patient was discharged on day 10 with normal creatinine and urine output of 1.5 L/day.

3.Discussion

Patient was admitted with fever, diarrhoea and oliguric ARF. Tests for malaria, dengue, UTI were negative. S. Creat was high without signs of hypovolemia, hypotension, urinary retention or pre-existing renal disease. On 4th day urine output decreased with change in colour. That made us to go for CPK-TOTAL and URINE for MYOGLOBIN. Leading us to diagnosis of Rhabdomyolysis. As there was no h/o drug ingestion, trauma, seizure, exercise, infectious causes for rhabdomyolysis were searched for. With CONTINUOUS FEVER and ABDOMINAL PAIN, IgM for Typhi was sent which was positive and hence the diagnosis was made.

4.Conclusion

Common infectious agents like S. typhi may present in unusual ways. In a patient presenting with fever, diarrhoea and ARF due to Rhabdomyolysis, not adequately explained by other common causes, other uncommon aetiologies like Salmonella Typhi infection must be thought of.

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