

RED URINE WITH ENTERIC FEVER; A DIAGNOSTIC DILEMMA

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Abstract

Keywords:

Enteric fever, Red urine, Beet roots, Abnormal urine.

We report a case of 24 yrs old male clerk referred to our medicine department with complain of high grade fever for 10 days associated with episodic red urine of 4 days. He was diagnosed enteric fever and improved on antibiotic therapy. Cause of episodic red urine was consumption of much beet roots. He was counselled and got discharged.

Introduction

Enteric fever (or Typhoid) is one of the common infectious diseases in developing countries such as India. It is caused by gram negative bacteria, *Salmonella typhi* or *S. paratyphi*. Enteric fever can manifest a wide range of gastrointestinal complications like intestinal hemorrhage and perforation, acute pancreatitis, acute cholecystitis, hepatitis, hepatic abscess and splenic rupture.^[1] So we investigated patient for atypical presentation of enteric fever, fortunately red urine was due to beet roots.

Case report

A case of 28 yrs old male clerk referred to our medicine department with complain of high grade fever for 10 days associated with episodic red urine of 4 days. On enquiry he was taking treatment from a local practitioner for fever. During treatment he developed hematuria so he was referred to higher centre. At the time of admission he was very anxious and apprehensive for passing of red urine. On examination his blood pressure 130/80mmHg and pulse rate 100/min were measured. His cardiac, respiratory, gastrointestinal and nervous system examination were within normal limit. He had no history of hypertension, diabetes mellitus, tuberculosis, trauma, blood diathesis, renal calculi, drug abuse or anticoagulant use, any vasculitis and such similar episode in past.

His investigations revealed serology (IgM antibody) for *Salmonella typhi* was positive while blood culture was sterile. His complete blood count, liver function tests, kidney function tests and serum electrolytes were normal. Chest x-ray, USG abdomen and ECG were found normal. Urine analysis showed normal routine and microscopic examination. On the basis of clinical examination and investigations, enteric fever was diagnosed. Patient was treated with intravenous ceftriaxone with supportive care. Patient started improving and became afebrile on 5th day of admission but still cause of red urine was unknown, either it was associated with enteric fever or due to other cause. We ruled out all relevant causes of hematuria. Patient was very worried for his episodic red urine. When repeated urine examination for episodic hematuria showed no RBCs or any cast which drew attention to review history. History was re-evaluated. It was surprising that patient was taking much of beet roots to increase blood as advised by a local doctor. Consumption of beet root was stopped till urine was clear. Patient was counselled for red urine due to beet consumption and not due to disease. He was explained nutrient value of beet root so he can take it without worry. He was discharged on 10th day of admission.

Discussion

Urine discoloration is frequent complaint in either gender of all age groups. Abnormal urine colour is important clue for differential diagnosis. Urine is important part of investigation. Normal colour of urine varies from pale yellow to deep amber which is largely dependent on concentration of urine. In a healthy normal person urine has little or no odor. Though many times colour of urine changes which is not always a sign of disease, but it must not be ignored because it may be a part of underlying disease particularly if patient is symptomatic. Therefore treating Physician should investigate appropriately. Red urine may be due to medical or nonmedical conditions. If urine analysis shows red blood cells or haemoglobin, it is called hematuria. Various causes of red urine are summarised as – (1). Organic causes-haematuria (due to vascular, glomerular, interstitial and uroepithelial causes), hemoglobinuria (due to intravascular hemolysis such as sickle cell anaemia, thalassemia, transfusion reactions and glucose 6 phosphate dehydrogenase deficiency),^[2,3] myoglobinuria (due to ischemic damage of muscles, crush injuries, and vigorous exercise),^[4] nut cracker syndrome,^[5] porphyria,^[6] urate crystals in urine (pink diaper syndrome),^[7] use of hydroxocobalamin for cyanide poisoning.^[8] (2). Drug causes- warfarin,^[9] rifampin,^[10] phenazopyridine,^[11] ibuprofen and deferoxamine,^[12] salicylate and chloroquine,^[7] phenytoin.^[13] (3). Food- carrots,^[14] black berries and beet roots,^[15] Senna and rhubarb.^[13] (4). Contaminations- factitious disorders and menstrual blood.^[16]

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