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RESEARCH ARTICLE

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A RARE PRESENTATION OF UTI PURPLE COLOUR BAG SYNDROME

***Dr. Shiliverisadhansiddardha**

Junior Resident, Jawaharlal Nehru Medical College, Sawangimeghe, Wardha

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*Corresponding author:

Dr. Shiliverisadhansiddardha

ABSTRACT

It is a rare condition by intense purple discoloration of urine bag. Although typically 'benign'. Purple urine is not only alarming to patient, but can signal the presence of a UTI that needs a prompt treatment. The interaction between bag(plastic) and pigments and high bacterial load is important in precipitating the PUBS. Several bacteria mostly gram negative, which have been associated with PUBS are Providential Stuartii, providentiaretegri, klebsiellapneumoniae, Proteus mirabilis, E.Coli. Elderly and bedridden patients with multiple comorbidities more often require indwelling catheters which increase their risk of UTI. Dehydration increases the serum concentration of indigo and indirubin, hence purple urine is more likely. A greater urinary bacterial load during UTI will obviously increase the availability of bacterial sulphates and phosphates which convert indoxyl sulphate to indigo and indirubicin. Renal failure increases the risk of PUBS because there is impaired clearance of indoxyl sulphate. PUBS is a rare complication of UTI that commonly occurs in elderly women, chronically catheterised bedridden patients, constipation with co-morbidities. It is alarming and concerning for patients, families, Doctors but relatively harmless but needs treatment. This is a spot diagnosis but can be confirmed by history, examination, and urinary investigations. There is significant morbidity and mortality can be associated if not treated. Treatment should target UTI with appropriate antibiotic regimen to prevent sepsis.

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INTRODUCTION

It is a rare condition by intense purple discoloration of urine bag. Although typically 'benign'. Purple urine is not only alarming to patient, but can signal the presence of a UTI that needs a prompt treatment. The interaction between bag(plastic) and pigments and high bacterial load is important in precipitating the PUBS. Several bacteria mostly gram negative, which have been associated with PUBS are Providential Stuartii, providentiaretegri, klebsiellapneumoniae, Proteus mirabilis, E.Coli. The mechanism of PUBS is altered tryptophan metabolism. The risk factors are females, increased dietary tryptophan, alkaline urine, chronic catheterization, renal failure, high bacterial load. A 65 year old elderly female presented to casualty with chief complaints of fever with chills, with generalised weakness with recent fracture of left shoulder due to fall. On examination she was febrile with hypotension, rest of the vitals normal, known case of Hypertension, diabetic and constipation. She was admitted in JNMC and Foley's catheterization was done and urine output was monitored. 5 days after catheterisation, purple discoloration of urine was observed in urine bag.

Then urine analysis was sent, with report of urinary PH of 8.4 alkaline urine with few leucocytes diagnosed as UTI. Urine culture sensitivity revealed the presence of Proteus mirabilis. She was treated with IV fluids and IV antibiotics and Foley's catheter removal. Within 3 days of the treatment. patient recovered and she was diagnosed as (PUBS) Purple urine bag syndrome secondary to urinary tract infection secondary to Proteus mirabilis. Elderly and bedridden patients with multiple comorbidities more often require indwelling catheters which increase their risk of UTI. Dehydration increases the serum concentration of indigo and indirubin, hence purple urine is more likely. A greater urinary bacterial load during UTI will obviously increase the availability of bacterial sulphates and phosphates which convert indoxyl sulphate to indigo and indirubicin. Renal failure increases the risk of PUBS because there is impaired clearance of indoxyl sulphate.

Routine Investigations revealed:

Hb: 9gm/dl; normocytic normochromic,

ESR:50mm/hr.RBS:90mg/dl

WBC: Neutophilic Leucocytosis (18000) ECG, RFT, Sr. Electrolytes, USG abdomen were within normal limits.

CUE: alkaline ph 8.4 with few leucocytes.

Urine cultures & sensitivity: positive for Proteus Mirabilis.

PUBS is a rare complication of UTI that commonly occurs in elderly women, chronically catheterised bedridden patients, constipation with co-morbidities. It is alarming and concerning for patients, families, Doctors but relatively harmless but needs treatment this is a spot diagnosis but can be confirmed by history, examination, and urinary investigations. There is significant morbidity and mortality can be associated if not treated. Treatment should target UTI with appropriate antibiotic regimen to prevent sepsis.

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