Available online on 15.09.2023 at http://jddtonline.info

Journal of Drug Delivery and Therapeutics

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Short Communication

Purple bag unmasking disguised Urinary tract infection

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Article Info:

Article History:

Received 04 July 2023
Reviewed 09 Aug 2023
Accepted 27 Aug 2023
Published 15 Sep 2023

Cite this article as:

Sharma S, Tanwar DS, Kumar M, Purple bag unmasking disguised Urinary tract infection, Journal of Drug Delivery and Therapeutics. 2023; 13(9):4-5 *DOI: http://dx.doi.org/10.22270/jddt.v13i9.5963*

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Case summary

A seventy-year lady with a medical history of diabetes mellitus presented with acute urinary retention in urology emergency. She was catheterized in emergency department and evaluated. Her retention volume was 700 ml. Blood investigations were Haemoglobin 11.5 gm/dl, TLC 9500/mm3, urea 20 mg/dl, creatinine 0.6 mg/dl, glycosylated haemoglobin 8.1 gm%. Urine culture showed growth of Klebsiella pneumoniae and started on levofloxacin. She was advised to come at 2 weeks for foleys catheter removal. She came at 2 weeks for follow up and foleys catheter removal. On examination, purple-coloured discolouration of urine and urobag was seen. (Figure 1)

Figure 1: Urobag showing purple discolouration.

Discussion

Purple urine bag syndrome is a rarely reported condition of decolouration of urine. This is reported in elderly females with diabetes mellitus having urinary tract infections. Discolouration of urine is due to the production of indigo (blue) and indirubin pigments as a result of bacterial growth. These pigments are produced from tryptophan. (Figure 2)

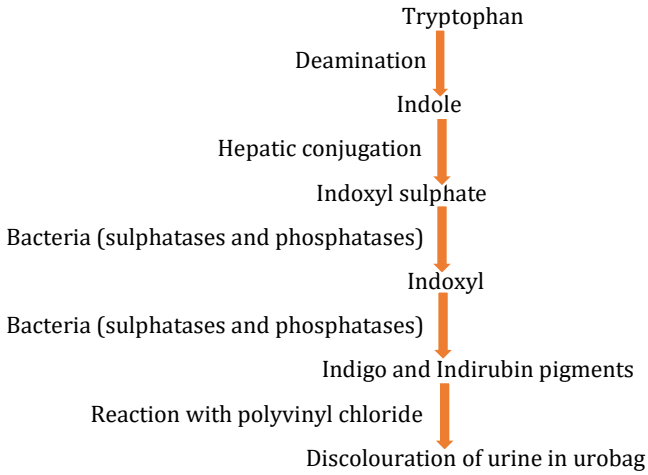

Figure 2: Production of purple urinary colour from tryptophan

The bacteria associated with the production of purple bag syndrome are Klebsiella pneumoniae, Providencia stuartii, Proteus mirabilis, Providencia rettgeri, e coli, pseudomonas, morganella morganii, Citrobacter spp. And streptococci (group B). These bacteria produce enzymes such as sulphatases and phosphatases which convert indoxyl sulphate to indoxyl. Indoxyl is oxidized in the urinary tract to pigments indigo and indirubin pigments. Which on coming in contact with polyvinyl chloride tract of urobag results in the formation of purple discolouration. [1,2]

Discoloration of urine is a clinical sign in various diseases which helps in differentiating diseases. Discolouration of urine occurs in hematuria, bladder tumors, renal cell carcinoma, drugs, and dyes intakes, etc. Purple urine discoloration is rarely reported in the literature and is generally associated with urinary tract infections.[3]

In this report, a 70-year-old woman with a past medical history of Diabetes mellitus on oral hypoglycaemic, occasional constipation was evaluated in a urology emergency. She presented with chronic urinary retention. She was catheterized and the retention volume was 700 ml. she was advised with investigations and advised to come after 7 days. She had confusion and right hemiplegia in every neurological examination and required urinary catheterization due to immobilization. Purple coloration was observed in urine on the twelve days after catheterization. hospital day. She had asymptomatic however worried because of urine colour. The catheter was changed, and urine culture was repeated. Supportive management such as alpha-blockers tamsulosin, adequate fluids, catheter care, laxatives for constipation, medicine consultation for diabetes was taken. Urine colour changed to normal, and constipation improved. Her foleys catheter was removed after 2 weeks. She voided well with minimal residual volume. At follow-up at 3 months, she was asymptomatic with no urinary complaints.

Funding source: None

Competing interests/Conflicts of interest: None

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