

Pink urine syndrome

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BRIEF REPORT

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ABSTRACT

In the present images we allude to a syndrome of low incidence, characterized by pink urine, being related to factors such as obesity, and being triggered by abdominal surgeries, use of propofol, among others. Being favoured by the presence of abundant crystals of uric acid in the urine confers the typical pink coloration.

Key Words

Pink urine syndrome, hyperuricemia, propofol

Implications for Practice:

1. What is known about this subject?

Is a rare syndrome, there is no exact incidence and only reports of isolated cases.

2. What new information is offered in this report?

The information of the other cases is integrated and a more complete revision is made, addressing predisposing factors and triggers.

3. What are the implications for research, policy, or practice?

Every patient who has pink urine should be protocolized to rule out uricosuria, if not, a deeper protocol should be performed.

Background

The present case of pink urine syndrome, has predisposing factors such as obesity and oesophageal cancer, without data of hyperuricemia or dehydration prior to surgery, nor drugs with uricosuric effect, as well as triggers such as the use of propofol during pregnancy. Surgery (abdominal) and sedation in the intensive care unit, which despite doses in acceptable anaesthetic ranges, could contribute to the precipitation of uric acid crystals (by the indirect effect of propofol on increasing uric acid excretion), which was confirmed by urinalysis to be associated with crystals of abundant amorphous urates and disappearing after the suspension of propofol.

This syndrome is characterized by the sudden presence of pink urine distinguishable from haematuria, due to its lighter tone and to leave sediment of this colour when centrifuging. Among the causes to which they have been related are cholera, obesity (probably in the context of a metabolic syndrome that usually accompanies hyperuricemia), post-surgical patients in the gastrointestinal (gastric bypass), use of propofol (Urinary uric acid) and various tumours (digestive, lymphoma).^{1–5}

Case details

The case of a 45-year-old male patient with grade III obesity (BMI: 40.2 kg/m²) and non-metastatic esophageal (oesophageal adenocarcinoma of the distal third) cancer previously treated with chemotherapy and unresponsive radiation therapy, so that esophagectomy was proposed; Did not consume any drugs added and their condition at admission was stability, there was no dehydration, being a

programmed surgery which happened without incident maintaining a state of normotension and adequate urine flow of 2ml/kg/hr., entering the intensive care unit in the immediate postoperative period under mechanical ventilation, propofol was used during the transanesthesia (initial dose of 2mg/kg, with maintenance dose 200mcg/kg/min) and post-operative as a sedative (dose 2mg/kg/hr. maintained for 24 hr. and later suspended).

The presence of pink urine during the first hour of the intensive care unit, as well as sediment of the same colour, without traumatic urinary history, haematuria or prostatism, was highlighted during the exploration.

Biochemically haemoglobin was reported 11g/dl, haematocrit 33 per cent, leukocytes 8,000/mm³, platelets 210,000. Glucose 127mg/dl, creatinine 0.7mg/dl, urea 34mg/dl, BUN 17mg/dl, uric acid 7.1mg/dl, Na 137mmol, K 3.8mmol, Cl 102mmol; Urinalysis was requested which document abundant crystals of amorphous urates (uric acid), so that the diagnosis of pink urine syndrome was included in the context of an obese and cancer patient, both situations predisposing factors for this syndrome, in the Who also used propofol during their surgical and sedation treatment.

Subsequent to the suspension of propofol for extubation manoeuvres, pink urine tended to disappear spontaneously without further therapeutic intervention.

Discussion

The mechanism of action has been described in various ways according to the etiological route:

- Uricosuria is due to an increase in antidiuretic hormone and surgical stress related to steroids (cortisone), which condition precipitation of uric acid crystals, acting as uricosurics.
- In obese patients increased rates of purine synthesis and subsequently, increased uric acid synthesis, may favour uricosuria and the presence of pink urine.
- Oliguria, aciduria and increase in urinary osmolarity in the same way, condition uricosuria.
- The use of propofol causes an increase in the excretion of urates, which can condition pink urine. Other drugs such as losartan, amlodipine, atorvastatin, fenofibrate, act as secondary uricosurics and can condition the pink urine syndrome
- Aciduria is also mentioned (because of decreased excretion of urinary glutamate causes a decrease in urinary pH) and hyperuricosuria induced by metabolic

acidosis and dehydration after surgery (mainly abdominal surgery) cause precipitation of uric acid crystals.^{6–9}

It is considered a benign condition that in most cases does not require specific treatment and is usually resolved spontaneously.

Conclusion

In order to define causality, the present case fulfils most of the Bradford Hill postulates (consistency, specificity, temporality, biological plausibility, biological gradient, coherence, experiment and analogy), with which we can conclude that this case of Pink urine Syndrome, was due to the use of propofol in a patient with predisposing factors such as obesity and oesophageal cancer.

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PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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None

Figure 1: Pink Urine Syndrome



Figure 2: Frankly pink urine, pink sediment



Figure 3: Pink sediment

