

Case Report

Other Etiology of Gross Hematuria of Non-Glomerular Origin: Oral Contraceptives

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ABSTRACT

A 21-year old woman was admitted for gross hematuria and lower back pain, gross hematuria of one month of duration. No alterations but the confirmation of hematuria in the microscopic exam of the urine were detected in any of the laboratory studies performed nor in the imaging. Contraceptives were withdrawn resulting in the cessation of the hematuria possibly proving to be the cause.

INTRODUCTION

Hematuria is a common disorder that consists in the presence of three or more blood cells per high-powered field in the urine. Hematuria might be detected during urine testing under the microscope or as gross hematuria when it is visible to the naked eye, can be produced by multiple causes including nephrological diseases or urinary tract disorders. We present the first case of macroscopic gross hematuria secondary to oral contraceptives consisting in Levonorgestrel/etinilestradiol.

CASE DESCRIPTION

A 21-year old woman was admitted to our hospital for gross hematuria of one month of duration with new onset lower back pain. She had no significant medical history. Her mother had one single episode of symptomatic urinary calculi. She was following an elective contraceptive therapy consisting in Levonorgestrel/etinilestradiol and no other medication was being taken. Our patient reported gross hematuria from the beginning to the end of every miction of one month of duration coinciding with the beginning of menstruation but persisting after it was over; and spontaneous lower back pain of two days of duration. On physical examination no alterations were observed, and the patient stood hemodynamically stable through all the process. Urine analysis showed >100 erythrocytes per view and a 238, 4mg/L albumin/Creatinine ratio and normal calcium (3.6mg/dl) and uric acid excretion (31mg/dl). The primary serum laboratory results showed mild normocytic anemia [hemoglobin 11.2g/dl, hematocrit 36.4%, MCV 81.7fl]. Her thrombocyte count, creatinine level and coagulation studies where within normal ranges. The primary differential diagnosis included urinary tract alterations and nephrone disease. Additional serum tests showed positive ANA antibodies in a low count, ANCAs where <0.2 and complement count was between normal ranges (C3 121.4mg/dl, C4 16.9mg/dl). Abdominal and pelvic ultrasound were performed showing normal size kidneys with a cortical thickness within the normal ranges and good corticomedullary differentiation with few little non-complicated cysts, no dilation or pathological images within the whole



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urinary tract were found. Urine cytology resulted negative for malignancy twice and no other findings were described in urine testing.

Due to the lack of findings a cystoscopy was performed showing a normal urethral tract and a healthy bladder mucous. Given the negative results for hematuria of glomerular or urinary tract origin, we decided to withdraw oral contraceptives, menstruation occurring three days after the withdrawal. After ten days no more hematuria was shown, and four months later still without hematuria.

DISCUSSION

Gross hematuria is hematuria that is visible to the naked eye and it is a sign of malignancy until proven otherwise [1]. Other common causes are calculi, urinary tract infections, traumatism and less likely glomerular disease and vascular alterations. Laboratory tests should be performed to distinguish real hematuria from false urine coloring such as hemoglobinuria and myoglobinuria and determine other alterations within the blood cell counts, coagulopathy or renal function disorders. Imaging is important to evaluate both kidneys and the urinary tract beginning from abdominal ultrasound and considering cystoscopy or angiography CT scan if a vascular cause is being considered. When all these tests show no alterations including immune disorders and malignancy positive cytology a renal biopsy should be considered [2], in our case these causes were ruled out. One less common cause of hematuria is the use of oral contraceptives [3]. Platelet aggregation is increased and clotting factors, especially fibronogen, prothrombin, and factors VII, IX, X, and XII, are elevated in oral contraceptive users. This leads to an pro- coagulative systemic state [4]. One case of hematuria secondary to a pro-coagulative state can be renal vein thrombosis. This syndrome presents with flank pain, flank tenderness, rapid deterioration of renal function and worsening proteinuria, micro or macroscopic hematuria.

Nausea, vomiting or fever may be present [5]. Another rare syndrome called Loin Pain and Hematuria syndrome.

This syndrome is characterized with severe intermittent or persistent flank pain, either unilateral or bilateral, associated with gross or microscopic hematuria, specially affecting young females. It is a diagnosis of exclusion as there still is not a consensus of validated diagnostic criteria [6]. Some studies have shown relationship between the use of contraceptives and Loin pain and Hematuria Syndrome [7]. Our patient had no malignancy risk factors and no test showed any findings for any of the common causes of gross hematuria. The presentation of the loin pain appeared almost one month after the initiation of hematuria and lasted for a day with no worsening of renal function is proteinuria which makes the diagnosis of renal thrombosis unlikely. As a diagnosis of exclusion Loin Pain syndrome should be considered but the cessation of the hematuria just after stopping the oral contraceptives makes it less likely to be the actual diagnosis. The relationship between the use of oral contraceptives and hematuria is still unclear but it seems an interesting target for further studies.

REFERENCES

- Willis GC, Tewelde SZ. (2019). The Approach to the Patient with Hematuria. Emerg Med Clin North Am. 37: 755-769.
- Avellino GJ, Bose S, Wang DS. (2016). Diagnosis and Management of Hematuria. Surg Clin North Am. 96: 503-515.
- Peterson LM, Reed HS. (2019). Hematuria. Prim Care. 46: 265-273.
- Notelovitz M. (1985). Oral contraception and coagulation. Clin Obstet Gynecol. 28: 73-83.
- Mazhar HR, Aeddula NR. (2022). Renal Vein Thrombosis.
 In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing.
- Zubair AS, Salameh H, Erickson SB, Prieto M. (2016). Loin pain hematuria syndrome. Clin Kidney J. 9: 128-134.
- Burden RP, Dathan JR, Etherington MD, Guyer PB, Maclver AG. (1979). The loin- pain/haematuria syndrome. Lancet. 1: 897-900.

