



## Persistent Gross Hematuria in Pregnancy

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### Abstract

While bitsy or dipstick hematuria is common during gestation, it infrequently signifies any condition likely to impact negatively on gestation outgrowth. Gross hematuria on the other hand is rare in gestation. The commonest etiology is infection, followed by bladder monuments, underpinning renal complaint, specifics, trauma, excrescences and inhibition. Some medicines similar as rifampicin and phenytoin can also discolor urine and give an print of gross hematuria. Differential judgments include all the causes of hematuria in the non-pregnant case as well as gestation-specific causes similar as pre-eclampsia and placenta percreta. examinations during gestation to find the cause are limited to non-invasive procedures which include blood and urine tests, sonography and occasionally, glamorous resonance imaging.

**Keywords:** Hematuria; pregnancy; idiopathic; nutcracker phenomenon

### Background

While bitsy or dipstick hematuria is common during gestation, it infrequently signifies any condition likely to impact negatively on gestation outgrowth (1). Gross hematuria on the other hand is rare in gestation. The commonest etiology is infection, followed by bladder monuments, underpinning renal complaint, specifics, trauma, excrescences and inhibition (3). Some medicines similar as rifampicin and phenytoin can also discolor urine and give an print of gross hematuria. Differential judgments include all the causes of hematuria in the non-pregnant case as well as gestation-specific causes similar as pre-eclampsia and placenta percreta. examinations during gestation to find the cause are limited to non-invasive procedures which include blood and urine tests, sonography and occasionally, glamorous resonance imaging.

still, the hematuria is labeled as "Idiopathic" and is explained by the peculiar changes in the urinary tract due to mechanical and hormonal factors related to gestation (4). If examinations yield no given cause.

Similar gestation-convincing hematuria is nearly always associated with robotic and complete resolution after delivery (5). Hematuria may or may not reoccur in unborn gravidity. A case is presented of a case who had patient gross hematuria in gestation of no pathologic cause that persisted for 16 weeks and resolved spontaneously at 34 weeks as suddenly as it had started.

#### Case report

A 33-year-old para 3 all alive, whose last child was 2 times old reported to Komfo Anokye Teaching Hospital for routine prenatal clinic in July 2012 at 14 weeks. piecemeal from nausea she was well. Her blood pressure was 120/70 mmHg. Her booking Hb was 13.2 g/dl and the blood group B Rh'D negative. She was sickling negative (genotype AA). She had entered Anti-D Immunoglobulin at the last delivery and presently had negative circular cohesion test (IAT). She was given routine antenatal medicines of fersolate, folic acid and multivitamin tablets and listed for the coming visit in a month's time.

She was coming seen as listed with a 2-day complaint of gross hematuria without lower abdominal pains or dysuria. The hematuria was foursquare and neither original nor

terminal. She had no history of a bleeding complaint and wasn't on any drug piecemeal from the antenatal medicines given at the booking visit. She had a BP of 120/80 mmHg and an Hb of 12.6 g/dl. She wasn't febrile. There was no lower abdominal or renal angle tenderheartedness. A Foley's catheter passed yielded bloody urine, an instance of which was taken for microbiology. An obstetric ultrasound checkup verified an 18 weeks 3 days' live, active fetus and a fundal placenta. Case was admitted for observation and monitoring, and started on hematinics.

The full blood count and clotting profile showed no abnormality. Culture yielded no bacterial growth after 7 days' incubation. A urological checkup done 2 days latterly reported as follows "normal feathers and ureters, normal urinary bladder figure, no mass or excrescence noted; there's debris at the bladder base harmonious with hematuria; post void volume is small and normal". Urine cytology was normal, showed scaled cells and no nasty cells.

The findings were bandied with the case who was comforted that all was well. She still, continued to have patient gross hematuria. Her Hb dropped to 10.8 g/dl after a month, and a farther drop to 9.6 g/dl after 2 months. She showed no symptoms of anemia, still. Abdominal examinations showed normal fetal growth. A reprise urine analysis after a month of admission showed RBC > 250/hpf and no bacterial growth on culture.

At 32 weeks her Hb had further dropped to 8.7 g/dl. Her IAT was negative. She was transfused 3 units of whole blood. Hematuria continued till 34 weeks 5 days when there was an abrupt conclusion. Urine analysis after that was negative. Her Hb was 10.4 g/dl. A reprise obstetric checkup at 36 weeks verified a fundal placenta. She went into robotic labour at 39 weeks 4 days and delivered a live womanish baby weight 2.9 kg with Apgar scores 8 and 10 at 1 and 5 twinkles independently. The baby's blood group was B Rh'D positive. The case was thus given 1500 IU of Anti-D Immunoglobulin and discharged in good condition with an Hb of 10.1 g/dl.

#### Discussion

Whilst bitsy hematuria, defined as three or further red-blood cells (RBCs) per high power field on bitsy evaluation



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of urinary deposition from two of three duly collected urinalysis samples (6) is fairly common in gestation, macroscopic or gross hematuria (visible to the naked eye) is rare. The 'Nutcracker' proposition (8) also called Left renal tone Hypertension, has been used to explain idiopathic hematuria of gestation. The miracle is attributable to the idiopathic drop in the angle between the aorta and the superior mesenteric roadway with consequent contraction of the left renal tone leading to an increased resistance to venous exodus (numbers 1 and 2). This results in development of expansive collateral venous drainage system involving the gonadal capsular, suprarenal, lumbar, azygous and peri-ureteral modes. The performing expansive renal varicosities give rise to hematuria when the thin-walled septum separating the modes from the collecting system ruptures. The main presenting symptom is hematuria, with or without left hand pain.



**Figure 1:** Showing position of the superior mesenteric roadway in relation to the left renal tone.



**Figure 2:** A venography showing dilatation and expansive collateral conformations of the left renal tone tree in the Nutcracker miracle.

#### Nutcracker

This case presented with an unforeseen onset of gross hematuria at 18 weeks and had no pathologic cause linked. The recommended examinations of full blood count, clotting parameters, urinalysis, renal function tests, ultrasonography and cystoscopy proved negative. Although confirmational tests similar as renal venography with dimension of pressure grade between left renal tone and inferior vena cava, wasn't done, she fitted clinically into the Nutcracker miracle. Unlike proved cases of idiopathic hematuria which resoluteness after gestation, her condition suddenly resolved at 34 weeks. Other proved rarer causes of hematuria in gestation include the Youssef pattern (9), paragangliomas (10), renal arterio-venous deformations (11), molar gestation (12) and the Nutcracker pattern (14). She was managed in sanitarium under strict observation and had repeated examinations to try and find the cause of the hematuria. Blood was only transfused when her Hb dropped below 9.0 g/dl. She delivered spontaneously to a normal, average weight baby at 39 weeks.

Similar gross hematuria generally causes great anxiety for the case who needs consolation at all times for a favorable outgrowth. She was constantly comforted of her condition. Any other examinations other than those listed before can safely be remitted till after the puerperium. Outside gestation, procedures similar as Gortex graft tone interposition, nephropexy, stenting, and order bus-transplantation can be used to correct the Nutcracker miracle (15).

#### Conclusion

When idiopathic hematuria occurs in gestation, the Nutcracker miracle must be allowed of. Non-invasive examinations are recommended, as well as characteristic treatment in sanitarium. Although the hematuria is known to resolve after delivery, it can also resolve during gestation as this case has revealed.

#### Competing interests

The author declares that he has no competing interests.

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