


Case Report

Idiopathic Hematuria in a Near-Term Neonate: A Rare Case and its Workup



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ABSTRACT

Neonatal hematuria is a very rare occurrence and is mostly due to secondary pathology. This case report describes a rare case of a near-term male neonate with gross Hematuria seen immediately after birth. Urine microscopy confirmed hematuria without growth in urine or blood cultures. A full blood count and coagulation profile showed no obvious cause for the Hematuria, and a renal tract ultrasound showed a mobile haematoma in the bladder but no other structural abnormalities. The newborn received an additional dose of intravenous vitamin K and was managed conservatively. The Hematuria resolved on the second day of life without recurrence on his 12-month follow-up, with no clear cause for the presentation. We discuss a rare case of neonatal gross Hematuria, its differential diagnoses, and clinical approach.

Keywords: Child; Neonate, Hematuria

Introduction

Neonatal macroscopic hematuria is a rare occurrence, particularly in term neonates; however, data on its actual incidence are scarce [1]. A retrospective study published in 1974 found an incidence of hematuria of 0.21 per 1000 newborns [2]. However, the evidence shows that many causes of gross neonatal hematuria can have potentially serious consequences if not treated promptly [1]. Causes include trauma, renal vein thrombosis, renal calculi, tumors, vascular malformations,

posterior urethral valves, polycystic kidney disease, glomerulonephritis, urinary tract infections, renal cortical necrosis, and coagulation/platelet disorders [1, 3, 4].

The proportion of gross neonatal hematuria cases for which no cause is found is difficult to quantify because a paucity of data is available on this topic due to its rarity [1]. Earlier studies have shown that spontaneous hematuria can occur without any identifiable cause in preterm neonates, particularly in extreme preterm neonates [5, 6]. However, idiopathic hematuria is very rare in term or near-term neonates [1].



Figure 1. Bladder ultrasound of the patient

We report a rare case of idiopathic self-resolving gross hematuria in a near-term neonate, its differential diagnoses, and investigations.

Presentation

A male neonate was born by induction of labour at 36⁺⁶ weeks due to small for gestational age (SGA) (birth weight 2276 g). Maternal history of positive group B streptococcus (GBS) can be seen on high vaginal swabs without premature rupture of membranes (PROM). Mother tested positive for respiratory syncytial virus positive on the day of delivery and developed mild maternal fever right before delivery. The initial Kaiser Early Onset Sepsis calculator score was 0.01, requiring no initial antibiotics [7]. The newborn received standard newborn care as recommended by the Kaiser EOS calculator. The serial antenatal ultrasound did not reveal any morphological abnormality.

The baby was born well and did not require resuscitation or initial antibiotics. A single dose of vitamin K was given according to the standard guideline before admission to the Special Care Nursery (SCN) for ongoing care. Clinical examination of the newborn was unremarkable

with a soft abdomen and no organomegaly. Genitalia is examined normally.

His parents noted blood in the neonate's nappy by his parents at around 6 hours of life and were subsequently confirmed to have gross hematuria by the medical team. The baby had 2 episodes of gross hematuria during the first 12 hours of life.

Investigations

Urinalysis confirmed the presence of hematuria showing high erythrocytes, moderate leucocytes, slight proteinuria, and no growth on urine cultures. Full blood count, coagulation profile, urea, electrolytes and creatinine, liver function tests, and C-reactive protein (CRP) were unremarkable. Structural causes were investigated by ultrasound of the renal tract with an apparent mobile isoechoic structure in the bladder suspicious of a blood clot (Figure 1); however, no evidence of urinary tract obstruction, renal vein thrombosis, or calculus was observed.

Treatment

The baby received antibiotics for 2 days with negative blood culture and normal serial C-reactive proteins (CRPs). A second dose of IV vitamin K was given. The pediatric

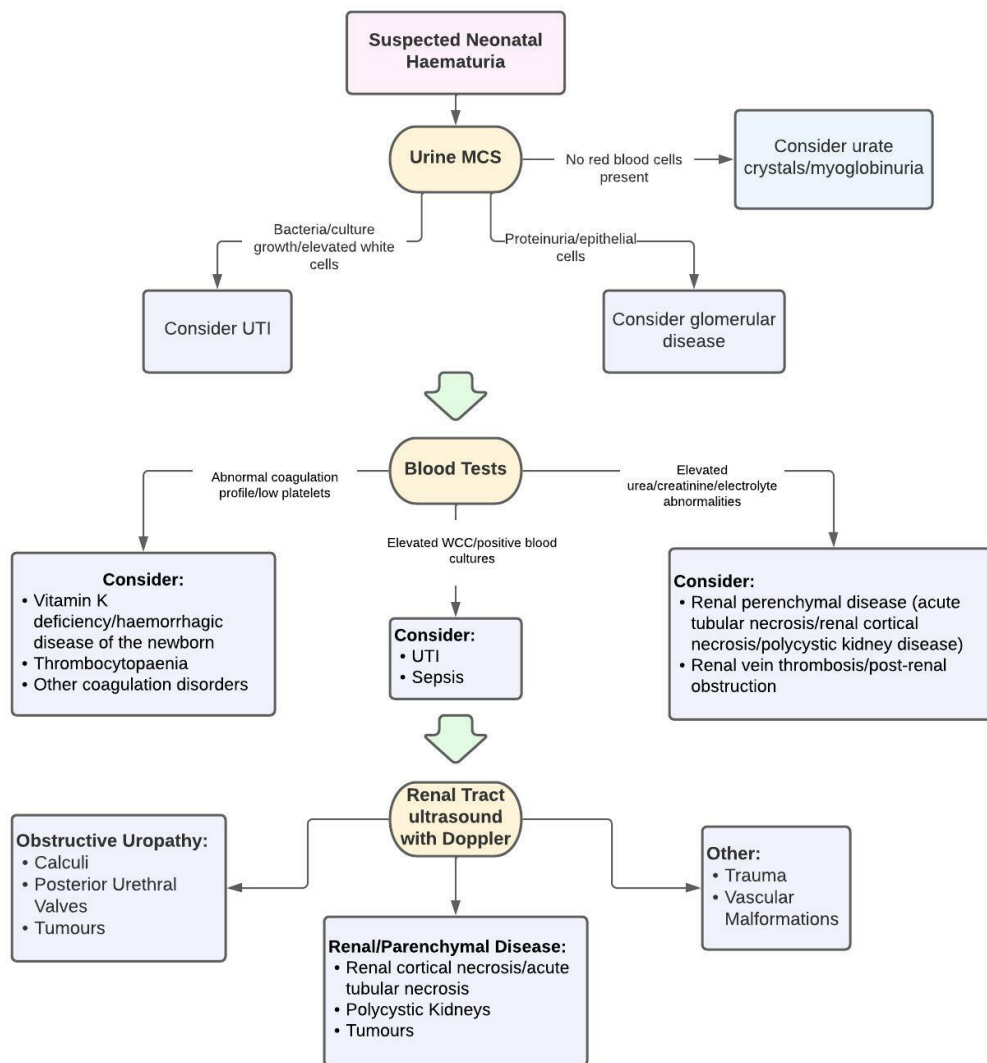


Figure 2. Approach to neonatal hematuria

urology team was consulted as part of the management at the tertiary neonatal ICU. The hematuria resolved by the second day of life. A repeat urinary tract ultrasound found interval resolution of the echogenic material in the bladder, increasing the likelihood that the mass was haematoma.

Outcome and follow-up

A repeated ultrasound 4-week post-discharge found complete resolution of the presumed blood clot in the bladder without structural abnormalities. No further episodes of hematuria were observed until 12-month of life during an outpatient follow-up.

Discussion

Transient idiopathic Hematuria is a well-documented phenomenon in preterm neonates, with risk factors, such as very low gestational age, low birth weight, and low Apgar scores [5, 6].

However, upon a comprehensive literature search, this is a novel case of self-resolving idiopathic hematuria in a near-term neonate. We hypothesize that transient intra-uterine renal tract obstruction may have been a possible cause of the hematuria in our case, with spontaneous resolution.

It should be noted that it is not uncommon to find hematuria mimics in the newborn period, such as urate crystals or myoglobinuria without red cells on urine microscopy [4]. Female newborns can also present with apparent Hematuria due to contamination from vaginal bleeding as a result of oestrogen withdrawal [8].

Despite the spontaneous resolution in our case, it is essential to perform a complete clinical workup and investigation of any gross neonatal hematuria presentation to rule out secondary pathology and avoid long-term consequences [1, 3]. Figure 2 shows a suggested initial investigation process and differential diagnosis with

management centered on treating the underlying cause. [1-4, 9, 10].

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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