

Case Report Beeturia Presenting as Suspected Hematuria in a Community Health Setting: Clinical Reasoning and Nursing Implications — A Case Report

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How to cite this article: Marry BMT. Beeturia Presenting as Suspected Hematuria in a Community Health Setting: Clinical Reasoning and Nursing Implications — A Case Report. GFPSS-IJMR 2026; 7:3: 3326-3327

Submitted: 08 March 2026: **Accepted:** 17 March 2026: **Published:** 31 March 2026

Background: Red discoloration of urine is often interpreted as hematuria; however, dietary pigments may produce similar findings. Beeturia is a benign condition caused by the excretion of betalain pigments following beetroot ingestion.

Case Presentation: A 45-year-old female presented in an urban community health setting with red-coloured urine and anxiety. History taking, focused physical examination, and review of investigations revealed no pathological findings except hemoglobin of 9.1 g/dL. Dietary recall identified recent beetroot intake. Clinical Reasoning and Discussion: Assessment suggested beeturia rather than hematuria. Awareness of dietary causes and iron status supported safe community-based nursing management.

Conclusion: Holistic nursing assessment, including dietary history, plays a vital role in differentiating benign urine discoloration from pathological conditions.

Keywords: Beeturia; Community health nursing; Betanin; Iron deficiency anemia; Clinical reasoning; Hematuria mimic

Introduction

Red or pink urine is commonly associated with hematuria and may cause significant anxiety among patients. However, certain dietary factors such as beetroot ingestion can lead to beeturia, a harmless discoloration of urine. Differentiating dietary causes from pathological conditions is essential in community health practice.

Case Presentation

A 45-year-old female with no known comorbidities

presented in an urban community health setting with a complaint of red-coloured urine suggestive of hematuria. Comprehensive nursing history revealed no pain, burning sensation, trauma, or infection. A focused physical examination showed stable vital signs, no suprapubic tenderness, guarding, rebound tenderness, or costovertebral angle tenderness. Investigations showed normal GFR and LFT with hemoglobin 9.1 g/dL. A 24-hour dietary recall identified recent intake of beetroot rice, and the urine discoloration was identified as probable beeturia. The client was reassured and advised monitoring for 24–48 hours.

Timeline of Events

Stage	Clinical Event	Key Findings / Actions
Initial Presentation	Red-coloured urine complaint	Patient anxious; suspected hematuria
History Taking	Comprehensive nursing assessment	No pain, trauma, or infection
Physical Examination	Abdominal & renal angle exam	No tenderness detected
Dietary Recall	24-hour food history	Beetroot rice identified
Outcome	Education & reassurance	Safe community-based management

Pathophysiology of Beeturia

Beeturia occurs due to renal excretion of betanin, a water-soluble betalain pigment. Normally, gastric hydrochloric acid and oxidative processes degrade the pigment during digestion. When degradation is incomplete, intact pigment is absorbed and excreted in urine.

Nursing Management

Therapeutic reassurance, dietary education, monitoring advice, and nutritional counseling were provided.

Discussion

Beeturia may mimic hematuria and lead to anxiety and unnecessary investigations. Recognition of dietary causes is essential for effective community nursing practice.

Ethical Approval and Consent

Informed consent was obtained from the patient for publication of this case report. Identifying details have been omitted to maintain confidentiality.

Conclusion

Beeturia is a benign dietary phenomenon that can resemble hematuria. Comprehensive nursing assessment is essential for accurate differentiation.

Clinical Take-Home Message

Not all red urine indicates pathology; dietary causes such as beeturia should be considered. Detailed assessment and patient education reduce anxiety and prevent unnecessary investigations.

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