Dengue shock syndrome after percutaneous nephrolithotomy leading to hematuria and renal failure: A rare complication

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INTRODUCTION

Hematuria following percutaneous nephrolithotomy (PCNL) is a worrisome complication. Most of these patients settle with conservative management and serious bleeding necessitates angioembolization.\[^{1,2}\] Fever coexisting with hematuria following PCNL is rare. This case highlights the fact that dengue hemorrhagic fever (DHF) can present in a similar fashion and DHF is usually not thought of, in the immediate postoperative patient.

CASE REPORT

A 50-year-old man underwent right retrograde intrarenal surgery with double J stenting for the right renal calculus (15 mm × 10 mm) and left PCNL for the left renal pelvic calculus (20 mm × 15 mm). He had no comorbidities and his baseline serum creatinine was 0.9 mg/dl. His preoperative urine culture was sterile. Postoperatively, he had a mild fever of 100°F on the first day and started having multiple febrile spikes of 102°F which worsened (102°F) from the 2nd postoperative day. His preoperative urine culture was sterile. His platelet counts started dropping and NS1 antigen for dengue was positive. He also developed anemia (hemoglobin: 7g%) and platelet counts dropped to 17,000/cmm. He developed anuria on the 7th postoperative day, with serum creatinine rising to 7 mg%. He required two sessions of hemodialysis and urine output improved. There is a need for high index of suspicion for dengue, especially when fever and hematuria coexist in post PCNL patients.
DISCUSSION

Post PCNL bleeding is serious in < 1% of patients requiring angiography and embolization. Hemorrhage is the most significant complication following PCNL and transfusion rates reach up to 10%. Causes include arteriovenous malformation or pseudoaneurysm and rarely venous laceration. Medical causes of bleeding are rare following PCNL and rarely thought of.

Infection following PCNL occurs in around 25% of patients and is usually managed with antibiotics. When patient develops fever and hematuria, still infection is the first possibility as considered by most urologists. Only one case has been reported in the English literature to the best of our knowledge, in which fever and gross hematuria started from the 2nd postoperative day. He was diagnosed to have DHF. He settled on the 8th postoperative day.

Our patient had fever from the first postoperative day. However, his platelet counts dropped on the 4th postoperative day and he tested positive for NS1 dengue antigen. Only on the 8th postoperative day, he developed hematuria, clot retention, and diffuse capillary leak syndrome. He developed anuria and required two sessions of hemodialysis. His condition resolved after 3 days and his creatinine reached baseline.

There are similar cases of DHF complicating percutaneous transluminal coronary angioplasty leading to coagulopathy. Dengue virus-induced coagulopathy has also been reported in renal transplant recipients, post hysterectomy, and coronary artery bypass grafting. The management of dengue in the presence of capillary leak syndrome, and renal failure was challenging in our patient. Despite bleeding from the left kidney and presence of stent on the right side, patient developed acute renal shutdown probably secondary to capillary leak. Renal failure improved as he convalesced from dengue.

Dengue is a RNA virus with four serotypes. One serotype confers lifelong immunity against reinfection, but partial and temporary immunity against other serotypes. There are three phases in the infection; febrile phase characterized by fever, retro-orbital pain, flushing and rash. Second is the critical phase constituted by increased vascular permeability and plasma leak and can affect multiple organ systems. This is followed by convalescent phase where lost fluid returns to the circulatory system.

CONCLUSION

Hematuria following PCNL is a dreaded complication. Fever complicating hematuria post PCNL is rare. This patient highlights the need for high index of suspicion for dengue in endemic areas and especially when fever and hematuria coexist.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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