CASE REPORT

Group A streptococcal hydrocele infection and sepsis in a renal transplant recipient

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A case of hydrocele infection secondary to a cutaneous β-hemolytic group A streptococcal infection is described in a renal transplant recipient. Sepsis and renal failure occurred in the setting of this severe, life-threatening infection. This case represents the first description of a group A streptococcal hydrocele infection in an adult. This type of infection can progress rapidly to sepsis and its attendant complications, especially in an immunocompromised patient. Early diagnosis and treatment is crucial in order to optimize the outcome.

Key Words: hydrocele, infection, sepsis, group A streptococcus, renal transplantation

Introduction

Infected hydrocele, or pyocele, is a rare type of scrotal infection. Of the few reported cases, most have involved neonates or patients with appendicitis.[1,2] Group A streptococcal infections are often implicated in severe, life-threatening infections such as necrotizing fasciitis or toxic shock syndrome. We report an unusual case of infected hydrocele secondary to a cutaneous β-hemolytic group A streptococcal infection that rapidly progressed to florid sepsis in a renal transplant patient.

Case report

A 29 year-old man presented to the emergency department with a one-day history of flu-like symptoms, followed by sudden onset of left testicular pain, which radiated into the left lower quadrant of the abdomen. There was associated nausea, vomiting, chills, sweats and rigors. His past medical history was significant for chronic renal failure secondary to reflux nephropathy, for which he required hemodialysis for a 3-year period. Following this, he received a living-related donor renal transplant that was ultimately unsuccessful due to chronic rejection. Subsequently, he underwent cadaveric renal transplantation to his left iliac fossa 3 years prior to his current presentation, which was functioning at a sub optimal level, with a baseline creatinine of 275 μmol/L. Since then, he has been known to have a chronic left hydrocele. Immunosuppressive medications include prednisone, tacrolimus and mycophenolate mofetil.

Physical examination revealed a very ill looking and obtunded young man who appeared to be in septic shock. Assessment of his vital signs revealed a blood pressure of 80/40 mmHg, a heart rate of 140 beats per minute, a respiratory rate of 32 breaths per minute and a temperature of 40.7°C. Relevant

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findings on examination included tenderness in the left lower quadrant, erythema and tenderness of the left hemiscrotum and difficulty assessing the left testis because of the degree of tenderness and presence of left hydrocele. Additionally, there was a small area of his left thigh that appeared purulent and cellulitic.

Pertinent bloodwork revealed a white blood cell count of 20.7 x 10^9/L and a creatinine of 361 μmol/L. After adequate resuscitation, urgent scrotal ultrasonography revealed incidental bilateral testicular microlithiasis, but more importantly a large left hydrocele with an obvious dependent fluid-debris level within it Figure 1. Prompt scrotal

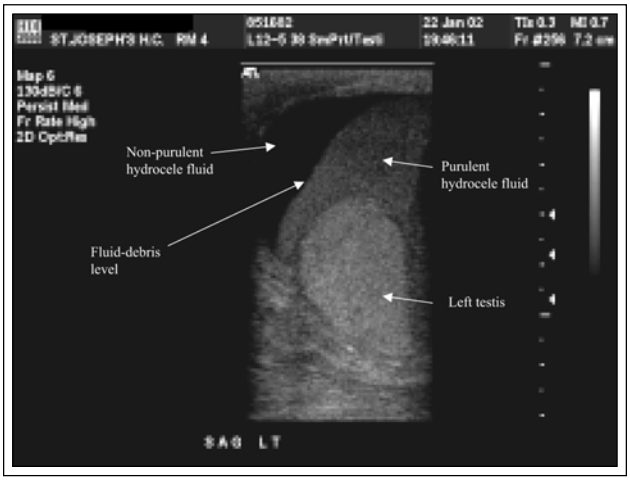

Figure 1a. Sagittal view of scrotal ultrasound, demonstrating the fluid-debris level within the hydrocele sac.

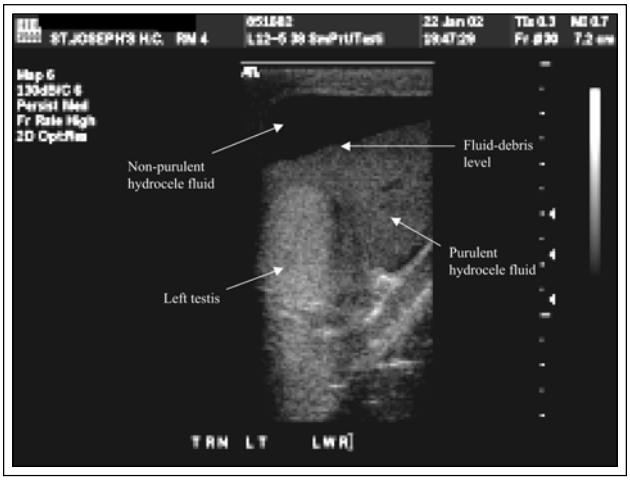

Figure 1b. Transverse view of scrotal ultrasound, demonstrating the fluid-debris level within the hydrocele sac.

incision and drainage was performed, resulting in the evacuation of approximately 150 ml of purulent hydrocele fluid. Culture swabs were taken of the hydrocele fluid and from the suspicious area of his left thigh.

The patient was admitted to the intensive care unit where he received intravenous fluids and antibiotics (cefazolin and ciprofloxacin). His creatinine rose to 550 μmol/L, however the need for dialysis was avoided. Blood cultures were negative, but the hydrocele fluid and the left thigh cultures were both positive for β-hemolytic group A streptococcus. He improved clinically and was discharged home one week later with baseline renal function. Oral cephalexin was prescribed for 3 weeks, and he was well at follow-up.

Discussion

Although hydroceles are common following renal transplantation, Group A streptococcal hydrocele infection has never been reported in this immunocompromised patient population. In fact, there has been only one previous published report of a group A streptococcal hydrocele infection, involving a case of bilateral neonatal hydrocele infection associated with maternal puerperal sepsis.[3]

Our case illustrates the potential severity and rapid rate of progression of infection that can occur in an immunocompromised patient. Early diagnosis and treatment is critical in order to avoid the morbidity and potential mortality of sepsis. Once a diagnosis of infected hydrocele is established, a search for the primary source of infection must be undertaken as these infections are often the result of hematogenous spread from another site. Proper principles of treatment include drainage of hydrocele and antibiotic therapy. Infected hydrocele is an important diagnosis to consider in any patient presenting with an acute scrotum, and certainly is one that should be considered in any male renal kidney transplant recipient who presents with sepsis of unknown origin. □

References

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