

Acalculous Cholecystitis: An Unusual Manifestation of Cytomegalovirus Disease in Renal Transplant Recipient

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ABSTRACT

Background: Common clinical manifestations of cytomegalovirus (CMV) infection include flu-like symptoms with fever, diarrhea, leukopenia, and elevated liver enzymes. Diagnosis is made by detection of the virus by buffy-coat blood culture or by polymerase chain reaction (PCR) analysis. **Methods:** Here we describe a women renal transplant recipient who presented with acalculous cholecystitis with CMV viremia, anemia and leucopenia three months after she received a kidney from cadaveric donor. **Results:** Retrospective analysis of peripheral blood by PCR analysis was positive for CMV DNA. Treatment with Intravenous Ganciclovir was started after diagnosis. The role of cholecystectomy in patients diagnosed as having acalculous cholecystitis associated with systemic CMV disease remains unclear. **Conclusions:** Because CMV infection is common in transplant patients, the atypical manifestations of CMV should be considered in the differential diagnosis of posttransplant complications. Detection of CMV DNA in the peripheral blood by PCR analysis may help identify these patients.

Keywords: CMV; Cholecystitis; Kidney; Renal; Transplant

1. Introduction

Cytomegalovirus infection is common in renal transplant recipients in the first 3 - 6 months after transplant [1]. Risk factors in transplant patients include primary exposure to CMV infection at the time of transplantation and the use of antilymphocyte preparations such as OKT3 and antithymocyte globulin [1]. The commonest presenting symptoms of CMV disease include fever, malaise, leukopenia, diarrhea, elevated liver enzymes, and pneumonia in severe cases [1]. With preemptive CMV prophylaxis in transplant recipients, serious manifestations of CMV disease are rarely seen [2]. Here we report a case of renal transplant recipients who experienced unusual manifestations of tissue-invasive CMV disease (cholecystitis). Although CMV is known to cause cholecystitis in patients with acquired immunodeficiency syndrome (AIDS), there is only seven previous cases report in a renal transplant recipient [3-7].

2. Case

A 44-year-old woman, who received a cadaveric renal transplant from a CMV-seropositive donor, presented

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after 4 months of transplantation with severe right upper quadrant abdominal pain, fever and vomiting. Her immunosuppression consisted of Thymoglobuline, mycophenolate mofetil, prednisolone and cyclosporine. Biochemical results revealed serum creatinine: 132 $\mu\text{mol/l}$, hemoglobine: 8.3 g/dl, leucopenia: 3040/ mm^3 (neutrophile: 2470 and lymphocytes: 400), CRP: 19 mg/l, lipase and liver enzymes are normal.

Cyclosporine residual rate (C0): 222 ng/ml. Abdominal ultrasound revealed sludge and a thinwalled gallbladder. Prior to her transplant, she was CMV seropositive. She didn't receive a prophylaxis against CMV. At that stage her CMV PCR was 1,341,000 copies/mL. She was admitted for treatment with intravenous ganciclovir. After 10 days of antiviral treatment with continued treatment using intravenous ganciclovir. The patient became afebrile, the clinical CMV infection resolved and counts returned to <10,000 copies/mL. At the last follow-up 2 months later, the patient had stable graft function with no recurrence of CMV disease.

3. Discussion

Our case demonstrates that CMV infection of the gallbladder can be a severe disease. Although CMV is

known to cause cholecystitis in patients with AIDS [8], there are only seven previous case reports of CMV cholecystitis in renal transplant recipients [3-7]. Four of those cases required an uncomplicated cholecystectomy [3-6]. There is one previous description of CMV cholecystitis leading to perforation of the gallbladder [6], and two cases described with hemorrhagic CMV cholecystitis postrenal transplantation [7]. The possibility of CMV infection of the gallbladder must be considered in all patients postrenal transplant that present with severe abdominal pain despite a policy of initial antiviral preemptive-prophylaxis. CMV infection is diagnosed by latex agglutination, complement fixation tests, enzyme-linked immunosorbent assay, antigen assay, and polymerase chain reaction. Biopsy is the only way to establish tissue invasion. Treatment is usually indicated for patients having symptoms of viremia or evidence of invasive disease. What remains unclear, though, is the role of cholecystectomy in patients diagnosed as having acalculous cholecystitis associated with systemic CMV disease. Ganciclovir, the most effective antiviral agent against CMV, has no hepatobiliary excretion [9]. Indeed, the gallbladder may serve as a reservoir for CMV, causing recurrent illness in patients treated with ganciclovir. Routine surveillance by PCR analysis of patients at high risk for developing CMV infection, and at the time of atypical clinical presentation, may be helpful in defining atypical cases of CMV-related complications.

4. Conclusion

We suggest that any post-transplant patient with upper abdominal pain should have a CMV-PCR and abdominal imaging.

5. Summary

We report a case of acalculous cholecystitis in renal transplant patients, who appeared with insidious onset, abdominal right upper quadrant pain and fever. CMV acalculous cholecystitis is an uncommon manifestation of CMV disease in renal transplantation, in our knowledge only seven cases were described. It should be considered, especially when abdominal pain and fever are present. Unfortunately, a limited experience in treatment,

either medical or surgical, was reported. In our case, the response to medical treatment was successful, disappearing the abdominal pain and the fever.

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