Klebsiella pneumoniae bacteremia associated with a Tesio hemodialysis catheter

To the Editor:

Catheter-associated bacteremia is a serious complication of temporary hemodialysis vascular access. Bacteremia is the second leading cause of death in hemodialysis patients.1 Infectious episodes are also the leading cause for untimely catheter removal and for morbidity in dialysis patients. In a study of 988 dialysis patients, the relative risk for bacteremia was increased more than 7-fold in patients with catheters than in those with arteriovenous fistulas.2 Gram-positive cocci cause most hemodialysis catheter-related bacteremias.3 Klebsiella pneumoniae associated with a Tesio hemodialysis catheter is a rare cause of hemodialysis-associated bacteremia.

ILLUSTRATIVE CASE

A 76-year-old demented woman was admitted with a fever of 103°F. The patient was admitted 2 weeks prior for methicillin-resistant Staphylococcus aureus bacteremia secondary to an infected left groin hemodialysis catheter treated with vancomycin. The follow-up blood cultures were negative after therapy. Because of poor venous access, a Tesio hemodialysis access catheter in place for 3 months was not changed.

On admission, blood pressure was 138/90 mmHg with a pulse of 100 beats/minute and respiratory rate of 10/minute. The physical examination was unremarkable and the Tesio catheter site was not erythematous and nontender.

The white blood cell count was 7.7 cells/mm³ (87% neutrophils, 12% stabs, 1% lymphocyte). Platelets were 276 k/mm³. Blood cultures were drawn and subsequently reported positive (4/4) for K pneumoniae, and ceftazidime, 1 g (IV) q24h, was started.

The Tesio was removed and the tip sent for semiquantitative cultures. The blood cultures grew K pneumoniae in 4/4 bottles, and the removed Tesio catheter tip culture also grew ≥15 colonies of K pneumoniae. After 48 hours of antibiotic therapy, the patient was afebrile and a new hemodialysis catheter was placed in the subclavian vein. Therapy was completed with gatifloxacin 200 mg (PO) daily for 2 weeks.

DISCUSSION

Most studies of catheter-associated bacteremias show predominantly Gram-positive organisms, particularly staphylococci. K pneumoniae bacteremia occurred in only 4% to 11% of cases, but none were associated with Tesio dialysis catheters.1,4

Among Gram-negative bacilli, the origin of K pneumoniae bacteremia was most commonly the urinary tract.1 In another hemodialysis study, one patient had a Klebsiella due to an infected arteriovenous fistula. Other Klebsiella bacteremias were due to cross-contamination by a dialyzer technician who failed to change gloves between patients and/or inadequate dialyzer disinfection.5

Most cases of catheter-associated bacteremia are treated empirically for S aureus and common aerobic Gram-negative bacilli. As with other types of catheter-related bacteremia, removal/replacement of the catheter is of primary importance in treating the infection. To the best of our knowledge, this is the first case of K pneumoniae bacteremia associated with a Tesio hemodialysis catheter.

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References


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Extra charge and extra length of hospital stay attributable to postcataract surgery endophthalmitis

To the Editor:

Cataract surgery is one of the most commonly performed procedures in the world. Following cataract lens extraction, endophthalmitis is a rare but serious complication.1,2

We conducted a retrospective study in a university hospital in Thailand to evaluate the impact of...
postoperative endophthalmitis on hospital charges and length of hospitalization (LOS). The hospital is a 750-bed facility serving as a medical school, residency training, and regional referral center for the southern part of Thailand.

We used a matched-pair comparison research scheme as the principal research strategy. A patient who underwent cataract lens extraction in the hospital between January 1996 and September 2003, and subsequently developed postoperative endophthalmitis was defined as a case. A patient without endophthalmitis, and had all the same diagnoses and surgical operations as a case was classified as a control. Any difference between case and control was assumed to be attributable to the endophthalmitis. In order to provide a fair comparison, the study employed the one-to-one matched pair method for comparing cases and controls. Eligible cases were selected from computer files of the hospital database. Search criteria were discharge diagnosis of endophthalmitis and lens extraction operation. The medical records including operative notes of eligible cases were reviewed to identify the studied cases. For each case, a matched control was selected and medical records were reviewed. If there were more than one eligible control, the one with the closest admission date was selected. The LOS was calculated by subtracting hospital admission date from discharge date. The LOS of all admissions for the index lens operations and endophthalmitis treatments were summed for total LOS of the cases. Data on hospital charges were retrieved from the central financial department of the hospital. Hospital charges were converted to US dollars by using an exchange rate of US$1 = 40 bahts. The paired t-test was used for determining point estimates and 95% confidence intervals (95% CIs) of the differences.

The study drew 27 matched pairs. The means of differences between cases and matched paired controls are given in Table 1.

### Table 1. Means of differences between cases and matched paired controls

<table>
<thead>
<tr>
<th>Compared variables</th>
<th>Cases (n = 27)</th>
<th>Controls (n = 27)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of hospital stay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (days)</td>
<td>17.7</td>
<td>4.3</td>
<td>13.4</td>
</tr>
<tr>
<td>95% CI</td>
<td>8.2-27.2</td>
<td>3.2-5.4</td>
<td>3.9-22.9</td>
</tr>
<tr>
<td>Hospital charge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean ($)</td>
<td>652</td>
<td>440</td>
<td>212</td>
</tr>
<tr>
<td>95% CI</td>
<td>507-797</td>
<td>382-497</td>
<td>55-369</td>
</tr>
</tbody>
</table>

CI, Confidence interval.

hospital charge for endophthalmitis treatment in the United States, which was about $10,400. Our hospital is a government-owned hospital, and the majority of the hospital budget is subsidized by the government. The hospital charge includes only medication and material used in treatment.

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References


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Proof of alleged transmission of hepatitis C virus by a conjunctival blood splash

To the Editor:

Hosoglu et al recently reported in this Journal an alleged transmission of hepatitis C virus (HCV) by a conjunctival blood splash, similarly to 2 earlier papers in AJIC and Scandinavian Journal of Infectious Diseases. Unfortunately, none of the 3 papers contains sufficient evidence of the transmissions claimed. None of the papers reports the viral load of the splash donor enabling the reader to estimate the infection risk and none presents a phylogenetic analysis of donor and recipient HCV.

It is true that small epidemiologic studies appear to indicate a moderate risk of patient-to-health care worker (HCW) transmission of HCV. However, studies of larger populations revealed that HCV prevalence within HCWs is not larger than within the local population despite a higher incidence of blood splashes among HCWs.

Hence blood splash transmission into conjunctiva as a new but epidemiologically unlikely transmission route requires the clear evidence of phylogenetic analysis of HCV strains of donor and recipient.

However, because we cannot exclude this transmission route either, we would encourage compliance