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Article abstract—We report the treatment of cerebral aspergillosis with amphotericin B, flucytosine, surgery, and liposomal amphotericin B (L-AmB) after a liver transplant. The patient died 2 months after cessation of antifungal therapy, as a consequence of multiple-system organ failure. The only relevant postmortem finding in the brain was a small, encapsulated abscess containing hyphae. This case indicates that L-AmB is an effective alternative drug for cerebral aspergillosis.

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Treatment of cerebral aspergillosis after liver transplantation

The mortality rate for cerebral aspergillosis in highly immunocompromised patients has been established as close to 100%. As in other localizations of invasive aspergillosis, amphotericin B (AmB) remains the first-choice drug, alone or in combination with flucytosine, in spite of its adverse reactions. Cerebral aspergillosis is a well-known and usually fatal complication after liver transplantation.

Only recently, Green et al reported the first surviving case in a 2-month-old infant successfully treated with a combination of antifungal agents, abscess drainage, and cessation of immunosuppression.

We present a liver transplant recipient with cerebral aspergillosis whose condition evolved satisfactorily after combined medical and surgical treatment. The death of the patient at a later date permitted a postmortem examination.

Case report. A 52-year-old right-handed man underwent liver transplantation for alcoholic cirrhosis on March 9, 1991. The immunosuppressor and antimicrobial treatments used during the early postoperative period are summarized in the table. The initial postoperative course was uneventful, but 20 days after the operation, he developed moderate rejection signs. A repeated course with corticosteroids proved unsuccessful. The patient was then treated with OKT3 monoclonal antibody (table), and improved. For the first postoperative month, daily leukocyte counts fluctuated between 7 x 10^9/L and 0.9 x 10^9/L, the lesser when OKT3 was used.

On April 15, he had three consecutive left-sided focal seizures, the last evolving toward a generalized tonic-clonic, and intravenous phenytoin was started. When he was fully conscious, neurologic examination revealed right homonymous hemianopia and extensor right plantar response. A brain CT showed two ring-enhancing lesions surrounded by edema in the left temporal and occipital lobes (figure 1, A), and a tentative diagnosis of cerebral abscesses was made. Almost simultaneously with these neurologic events, Aspergillus fumigatus was cultured from sputum. Despite normal chest radiographs, administration of AmB was begun (table). Dexamethasone, 4 mg IV every 6 hours, was also administered. A search for another primary site of infection proved negative. Two weeks later, no changes on brain CT were observed, and a left temporal craniectomy was undertaken on April 30. On operation, the temporal abscess was identified and removed. Direct smear of the content revealed numerous septate hyphae strongly...
Table. Summary of immunosuppressor and antimicrobial treatments

<table>
<thead>
<tr>
<th>Drug</th>
<th>Post-transplant day</th>
<th>Dose, route, duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporine A</td>
<td>Day 0</td>
<td>17.5 mg/kg PO, 6 hours prior to operation</td>
</tr>
<tr>
<td></td>
<td>Day 1</td>
<td>4 mg/kg IV</td>
</tr>
<tr>
<td></td>
<td>From day 2</td>
<td>Dose adjusted to blood level (IV, PO, or both)</td>
</tr>
<tr>
<td>Methylprednisolone</td>
<td>Day 0</td>
<td>1,500 mg IV in two separate boluses</td>
</tr>
<tr>
<td></td>
<td>Day 1 to 6</td>
<td>50 mg/6 hr IV, reduced to 20 mg/d IV</td>
</tr>
<tr>
<td></td>
<td>From day 7</td>
<td>Prednisone 20 mg/d PO as 1 dose</td>
</tr>
<tr>
<td>Azathioprine</td>
<td>Day 0</td>
<td>50 mg IV</td>
</tr>
<tr>
<td></td>
<td>From day 1</td>
<td>1 mg/kg/12 hr IV or PO</td>
</tr>
<tr>
<td>Cefotaxime</td>
<td>Day 0</td>
<td>1,000 mg/6 hr IV for 48 hr</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>Day 0</td>
<td>1,000 mg/8 hr IV for 48 hr</td>
</tr>
<tr>
<td>Acyclovir</td>
<td>Day 1</td>
<td>15 mg/kg/8 hr IV for 5 weeks</td>
</tr>
<tr>
<td>OKT3 monoclonal antibody</td>
<td>Day 28</td>
<td>5 mg/d IV for 14 days</td>
</tr>
<tr>
<td>Amphotericin B</td>
<td>Day 42</td>
<td>5 mg/d IV, gradually increased up to 50 mg/d, until a cumulative dose of 1,500 mg</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>Day 54</td>
<td>37.5 mg/kg/6 hr IV for 7 days, then PO for 2 weeks</td>
</tr>
<tr>
<td>Liposomal amphotericin B</td>
<td>Day 84</td>
<td>50 mg/d IV for 3 days, gradually increased up to 350 mg/d until a cumulative dose of 5,000 mg</td>
</tr>
</tbody>
</table>

* Doses calculated for 70 kg body weight.

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Figure 1. (A) Initial contrast CT from April 15, 1991, showing left temporal and occipital enhancing lesions. (B) A brain CT from May 21 shows a slight increase of the occipital lesion. (C) On June 25, after antifungal therapy, there is a residual small, ring-enhancing lesion.

Discussion. The management of cerebral aspergillosis in immunocompromised patients, such as liver...
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