S. typhi is the species of *Salmonella* most frequently implicated in abdominal abscess [4]. In a review of the literature on salmonella liver abscess, we found only four cases that were caused by infection with *S. enteritidis* [2, 7–9]. Abscesses due to *Salmonella* species frequently occur in a liver in which preexisting conditions, including amebic abscesses, echinococcal cysts, and intrahepatic hematomas, are present [4]; most of these abscesses are localized to the right lobe [2–4]. The clinical picture consists of upper abdominal pain and fever of variable duration that may be associated with diarrhea [2–4]. Treatment consists of administration of antimicrobial agents and surgical drainage.

To the best of our knowledge, this is the first reported case of salmonella liver abscess occurring after an episode of gastroenteritis, and the case is noteworthy because of the long period of latency. Although reinfection is a possibility, both strains of *Salmonella* were the same serotype and demonstrated the same antimicrobial susceptibility, phage type, and plasmid profile, factors that make reinfection improbable.

What site did *S. enteritidis* colonize in this patient for 19 months? The propensity of salmonella infection to develop in damaged tissue has been noted [1]; thus, perhaps the previous surgical trauma experienced by this patient was a contributing factor. Erlick and Reitler [10] isolated *Salmonella* species from the hepatic bile of four patients (one had previously undergone a cholecystectomy) and concluded that, in some cases, the liver may be the site of carriage. Other potential sites include the intestines, chronically inflamed jejuna, colonic diverticula, mesenteric lymph nodes, intrahepatic calculi, and reticuloendothelial macrophages [5, 6]. The most likely mechanism of colonization in our patient was ascent of the organisms to the intrahepatic biliary tract during the episode of gastroenteritis. This situation was favored by the loss of protection afforded by acid secretion, a result of the gastrectomy; the infection could not be cleared, and the abscess developed.

Salmonella species must be considered as a possible etiologic agent of a liver abscess, especially if the patient has experienced a prior episode of salmonella gastroenteritis. This diagnosis should be considered regardless of the remoteness or mildness of the episode.

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Sporotrichosis in Human Immunodeficiency Virus-Infected Patients: Report of a Case

SIR—Although fungal infections occur frequently in persons infected with human immunodeficiency virus (HIV), infection with *Sporothrix schenckii* is rarely seen in these patients. To date, only five cases of sporotrichosis in HIV-1-positive individuals have been reported; all of these patients responded poorly to treatment with amphotericin B. We recently successfully treated an HIV-1-positive individual with amphotericin B.

A 41-year-old man with a history of intravenous drug use and HIV-1 infection complicated by esophageal candidiasis presented in November 1989 with complaints of a painful nodule in his right antecubital fossa, an area where he had previously injected heroin. The area was not fluctuant, and he was advised to apply warm compresses to the area. He returned 1 month later with fevers and chills; a 3 × 3-cm cystic mass was noted in his right antecubital fossa. Pus was aspirated from the mass, and a gram stain of the material revealed many polymorphonuclear leukocytes and pleomorphic, budding yeasts. He was admitted to the hospital and the mass was surgically drained, after which he received intravenously administered amphotericin B. Cultures of the pus yielded a dimorphic yeast that was later identified as *S. schenckii*. The lesion resolved except for a small scab at the site. He left the hospital against medical advice after having received 800 mg of amphotericin B.

The patient developed idiopathic thrombocytopenic purpura and returned to the hospital in April 1990, when he was treated with high doses of corticosteroids and zidovudine. At this time, he had a lesion in his right antecubital fossa that was 8 mm in diameter and was draining pus. *S. schenckii* was again isolated from cultures of pus. Therapy with amphotericin B was started and the drainage resolved, but the lesion did not completely heal. He again left the

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hospital against medical advice after having received ~600 mg of amphotericin B. Cultures of his blood and cultures of specimens of bone marrow remained negative for fungi.

The patient was lost to follow-up for ~6 months but returned to the clinic for patients infected with HIV almost 1 year after his initial presentation. At that time, he had a scar in his right antecubital fossa but had no signs of inflammation or drainage. He remained without signs or symptoms of sporotrichosis for 11 months after his visit to the clinic.

Sporotrichosis rarely occurs in HIV-positive patients and is exceedingly difficult to eradicate. To date, only five other cases of patients with sporotrichosis have been reported in the literature [1–5]. All of these patients had diffuse, cutaneous ulcerations that are typical of sporotrichosis. In addition, three patients had disseminated disease with infiltration of the liver, spleen, joints, or eyes. Most of the patients also had other concurrent infections, a finding that probably is evidence of a high degree of immunosuppression. None of the patients completely responded to therapy. Our patient had a localized infection with *S. schenckii* that was apparently eradicated only after surgical debridement and aggressive therapy with amphotericin B.

Early recognition of *S. schenckii* infection and prompt institution of therapy with amphotericin B provide the best chance of cure at this time for HIV-infected individuals. Therapy with triazoles such as fluconazole and itraconazole have eradicated sporotrichosis in small numbers of immunocompetent individuals, but neither drug has been used for treatment of HIV-positive persons with sporotrichosis. [6–8] Ketoconazole, on the other hand, has poor in vitro activity against *S. schenckii* and has not been effective in the treatment of HIV-positive patients with sporotrichosis [9]. In the future, triazoles such as fluconazole or itraconazole given alone or in combination with amphotericin B may be more effective in the treatment of HIV-positive individuals.

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Echinococcosis in the Middle East and Turkey

SIR—We read with great interest the supplement by Oldfield et al. [1]. In regard to the section on echinococcosis, Lebanon is one of the countries in the Middle East with a high incidence of this disease. According to data collected during the late 1960s, the reported incidence of echinococcosis in Lebanon was 3.82 surgical cases/100,000 persons (officially registered population). The incidence of this disease was highest in the capital, Beirut, where the annual incidence was 8.29 cases/100,000 persons. In addition, in Cyprus the incidence, which was based on surgically treated patients, was reported as 9.56 cases/100,000 persons [2, 3].

Turkey is located between Europe and the Middle East. Because the major occupations of more than one-half of the population of Turkey are farming and breeding livestock, echinococcosis is a national health problem. *Echinococcus granulosus* is the major cause of this disease in Turkey. The number of cases of hydatidosis due to *Echinococcus multilocularis* reported by 1983 was 157 [4]. In Turkey it is obligatory to report cases of echinococcosis to The Ministry of Health and Social Assistance. The annual number of diagnosed and/or surgically treated cases of echinococcosis for 1982 was 1,412; for 1983, 1,828; for 1984, 1,965; for 1985, 2,038; for 1986, 1,961; for 1987, 2,174; and for 1988, 2,480 [5, 6].

The Meat and Fish State Company of Turkey carries out approximately one-half of the slaughtering of livestock in 25 different cities. Animals are slaughtered by this official company under veterinary observation. The rate of cases of echinococcosis in cattle and calves

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