Reply to Dr. Charlebois et al. (Clin Infect Dis 2002; 34:425–33)

Sir—In their study of the community prevalence of carriage of methicillin-resistant Staphylococcus aureus (MRSA) among San Francisco’s urban poor, Charlebois et al. [1] found an overall prevalence of MRSA carriage of 2.8%. Injection drug use and prior hospitalization within 1 year were significant multivariate risk factors for MRSA acquisition. During the spring of 2000, a similar point prevalence study of MRSA nasal carriage among injection drug users (IDUs) in the downtown east side of Vancouver, British Columbia, was conducted jointly by the Communicable Disease Control Division of the Vancouver/Richmond Health Board and the Division of Medical Microbiology and Infection Control, Vancouver Hospital and Health Sciences Centre (VHHSC).

Vancouver has a large concentration of economically disadvantaged individuals in the downtown east side of the city core. This inner-city neighborhood is home to 47,940 people, 52% of whom live below the poverty level. The life expectancy for men is 65.8 years, compared with 79.9 years in Vancouver’s wealthiest neighborhood [2]. The area provides services for 12,000 IDUs, many of whom live in the area’s ∼500 single-room-occupancy hotels [3]. Approximately 3,000,000 needles are dispensed annually through the needle-exchange program [4].

Nasal specimens were obtained from 299 IDUs, by teams of 2 nurses working on the streets who recruited participants from those requesting needle exchange. Information was collected on sex, age, and history of hospitalization for >48 h in the previous 3 months. Participants took their own nasal specimens under the supervision of the nurses. Specimens were taken that same day to the VHHSC microbiology laboratory and subcultured to blood agar plates. Colonies of S. aureus were screened for MRSA by use of 6 μg oxacillin screening agar, and colonies suspected to be MRSA positive were confirmed and typed by PCR [5].

Eighty-one (27%) of the samples, from 191 (64%) men and 107 (36%) women (the sex of 1 participant was not recorded), grew S. aureus. MRSA was identified in 22 (27%) of these isolates, and all were identified as serotype 21 by PCR. Overall, the MRSA carriage rate was 7.4% of the population surveyed and was similar for men and women. Only 18% of the MRSA-positive subjects reported having been hospitalized within the previous 3 months, compared with 15% whose samples grew methicillin-sensitive S. aureus and 21% who were negative for S. aureus or MRSA.

Although the rates of colonization with S. aureus and with MRSA (in those identified as IDUs) were similar to those found by Charlebois et al. [1], our study differed with respect to the detection of only 1 predominant MRSA type and the lack of association between hospitalization and MRSA colonization. Our data suggested that clonal spread unrelated to hospitalization was occurring within the IDU population in the downtown area. This is further supported by the fact that serotype 21, as determined by PCR, comprises only 42% of strains found in the hospital serving the downtown east side.

This study raises important questions regarding screening of IDUs for antibiotic resistant organisms prior to admission to a hospital, the use of antibiotics for outpatients (all the MRSA strains were resistant to multiple antibiotics), and empiric therapy for serious infections in this patient population. The identification of a single clone in this community raises the possibility of spread among the urban poor and eventually a higher community prevalence.

P. Daly,1 E. A. Bryce,2 and J. Buxton1

1Division of Communicable Disease, Vancouver Coastal Health Authority, and 2Division of Medical Microbiology and Infection Control, Vancouver Hospital and Health Sciences Centre, Vancouver, British Columbia, Canada

References

Successful Treatment with Caspofungin of Hepatosplenic Candidiasis Resistant to Liposomal Amphotericin B

Sir—The recent review by Singh [1] pointed out the increase in the incidence of opportunistic fungal infections in im-
munocompromised hosts during the past decade. Singh [1] also described the dramatic increase in the prevalence of azole-resistant Candida species, which is probably the result of current antimicrobial prophylactic strategies. We describe a patient affected by acute myelogenous leukemia in first complete remission who developed Candida albicans sepsis with hepato-splenic abscesses that did not respond to conventional antifungal therapy (which included anazole and liposomal amphotericin B [AmBisome; Fujisawa Healthcare]) and that resolved only after prolonged administration of caspofungin.

The patient was a 19-year-old man who underwent autologous peripheral blood stem cell transplantation (PBSCCT) after graft failure that occurred following matched unrelated donor transplantation. A few days after he underwent PBSCCT, the patient had a neutrophil count of <100 cells/μL, and he developed fever and abdominal pain. Broad-spectrum antibiotic therapy was started with imipenem, vancomycin, and amikacin; after 72 h of persistent fever, liposomal amphotericin B (5 mg/kg per day) was added to the regimen.

Four blood cultures yielded Pseudomonas aeruginosa that was resistant to imipenem, vancomycin, and amikacin; after 72 h of persistent fever, liposomal amphotericin B (5 mg/kg per day) was added to the regimen.

Microbiological culture of peritoneal fluid showed the presence of P. aeruginosa. After prolonged antibiotic therapy, the patient’s clinical condition improved, and fever resolved on day 19 after PBSCCT. Meanwhile, during treatment with granulocyte colony-stimulating factor (5 μg/kg per day), hematological parameters improved; the neutropenia resolved, and examination of a bone marrow aspirate revealed complete remission of leukemia.

On day 30 after PBSCCT, the patient, who was still receiving liposomal amphotericin B, vancomycin, and imipenem, developed a new episode of iperpyressia, and microbiological and radiological investigations were performed. C. albicans was isolated from multiple sites: stool, a vesical catheter, and a central venous catheter. Total body CT was performed and revealed multiple and diffused low-density areas in hepato-splenic parenchyma suggestive of microabscesses and a fluid collection near the ascending colon. Ten days later (on day 40 after PBSCT), the patient underwent hemicolectomy because of increasing abdominal pain. Intestinal and hepatic biopsies and culture of biopsy specimens revealed infection with C. albicans and P. aeruginosa. The same microorganisms were isolated from peritoneal fluid cultures. Ketoconazole was empirically added to the ongoing antifungal therapy with liposomal amphotericin B, but the patient’s clinical condition did not improve.

On day 100 after PBSCCT, fever persisted, and a CT was performed, which revealed no improvement of the hepato-splenic involvement. Therefore, the antibiotic and antifungal therapy was stopped (total dose of liposomal amphotericin B administered, 18 g), and treatment with caspofungin was initiated at a dosage of 50 mg/day after a starting dose of 70 mg. After 30 days, the fever had resolved and the clinical condition of the patient had improved. The echinocandin was administered daily for 60 days until the patient was discharged from the hospital. CT was performed 30 days after the end of the caspofungin therapy and showed that the lesions in the liver and spleen persisted in the absence of symptoms. Six months later, nuclear MRI was performed and revealed hepato-splenic areas with low signal intensity without perilesional ring on all imaging sequences; this finding was interpreted as chronic healed lesions [2, 3]. Twelve months after PBSCCT, leukemia re-lapsed, and chemotherapy was administered; no evidence of C. albicans reactivation was detected during therapy-related profound neutropenia.

Caspofungin is highly active against oral and esophageal candidiasis, and it has recently been approved by the US Food and Drug Administration for the treatment of adults with invasive aspergillosis refractory to other therapy and adults with this infection who are intolerant of other drugs [4, 5]. However, few data are available on the use of caspofungin in the treatment of chronic disseminated candidiasis [6]. In our experience, caspofungin was an effective and well-tolerated drug for the treatment of invasive candidiasis that was resistant to conventional treatment that included an azole and amphotericin B, and no side effects were detected during prolonged treatment in our patient.

References


Federica Sorà, Patrizia Chiusolo, Nicola Piccirillo, Livio Pagano, Luca Laurenti, Giuliana Farina, Simona Sica, and Giuseppe Leone
Istituto di Ematologia, Universita Cattolica Sacro Cuore, Rome, Italy

Reprints or correspondence: Dr. Simona Sica, Divisione di Ematologia, Istituto di Semeiotica Medica, Universita Cattolica Sacro Cuore, Largo A. Gemelli, 8, 00168 Rome, Italy (emacat@rm.unicatt.it).

Clinical Infectious Diseases 2002;35:1135–6
© 2002 by the Infectious Diseases Society of America. All rights reserved. 1058-4838/2002/3509-0018$15.00