Enferm Infecc Microbiol Clin. 2010;28(7):471–476

Enfermedades Infecciosas y Microbiología Clínica

www.elsevier.es/eimc

Cartas científicas

Fungemia por *Issatchenkia terricola*

Fungemia due to Issatchenkia terricola

Sr. Editor:

Describimos un caso de fungemia por *Issatchenkia terricola* en un paciente adicto a drogas en tratamiento por endocarditis bacteriana.

Se trata de un varón de 31 años fumador y consumidor de cocaína y heroína por vía parenteral activo y en tratamiento sustitutivo con metadona. Acudió a urgencias por fiebre de 40 °C con tiritona, malestar general y dolor dorsolumbar. Diagnosticado de neumonía, se extrajeron hemocultivos (BacT/ALERT, bioMérieux) y se inició tratamiento con levofloxacino. El paciente abandonó ese mismo día el hospital de alta voluntaria. Al día siguiente en los hemocultivos se aisló *Staphylococcus aureus* sensible a meticilina y se avisó a su médico de cabecera para que localizara al paciente y le recomendara que volviera al hospital, ingresó días después y se lo diagnosticó de endocarditis derecha con vegetación en la válvula tricúspide. Se inició tratamiento con cloxacilina y gentamicina. La serología del virus de la hepatitis B, el virus de la hepatitis C, la sífilis y el VIH resultó negativa. El paciente durante todo el ingreso continuó con consumo activo de drogas intravenosas (a pesar del tratamiento sustitutivo con metadona y sintomático) y se ausentaba por las noches del hospital. La evolución clínica fue favorable, sin fiebre y estado general conservado.

El décimo día de ingreso presentó un pico febril y se extrajeron hemocultivos (3 extracciones) en los que se aisló un hongo levaduriforme (en 2 extracciones, frascos FAN aerobios, BacT/ALERT, bioMérieux), que no formaba tubo germinal y asimilaba glucosa y glicerol en el auxonograma, presentaba a las 48h un perfil de 6.000.000 de API 20 C AUX (bioMérieux). Un nuevo estudio ecocardiográfico no evidenció cambios en las válvulas cardíacas. Ante la duda de una posible contaminación se volvieron a extraer hemocultivos 3 días después (3 extracciones) y volvió a crecer (en una extracción, frasco aerobio) el mismo hongo levaduriforme. El fondo de ojo no presentaba alteraciones. Se inició tratamiento con fluconazol, pero el paciente abandonó repentinamente el hospital 2 días después.

Un mes más tarde acudió a consultas externas y se observó buen estado general, afebril, a pesar de haber continuado el consumo activo de cocaína y heroína parenterales. Se volvió a pautar fluconazol durante 2 semanas. Pendiente de ecocardiograma de control, el paciente se encuentra asintomático.

Los 2 aislamientos del hongo levaduriforme se enviaron a un centro de referencia (Centro Nacional de Microbiología, Instituto de Salud Carlos III) donde se identificaron como *I. terricola* mediante pruebas convencionales y biología molecular (secuenciación de los ITS[1]). El estudio de sensibilidad presentó las siguientes CMI (mg/l): anfotericina B (0,06), 5-fluorocitosina (0,5), fluconazol (16), itraconazol (0,015), voriconazol (0,06), posaconazol (0,015), caspofungina (1) y anidulafungina (0,03).

El *I. terricola* (sus sinónimos son *Pichia terricola* o *Saccharomyces terricolus*) es un hongo levaduriforme (*Phylum ascomycota*: *Subphylum saccharomycotina*: clase *Saccharomycetes*: orden *Saccharomycetales*, familia *Saccharomycetaceae*)[2]. Los *Saccharomycetaceae* son parte de la flora normal del suelo y plantas, desde donde pueden contaminar los alimentos, y se encuentran ocasionalmente en el tracto gastrointestinal. Se diferencian de la familia *Cryptococcaceae*, a la que pertenece el género *Candida*, en su capacidad de formar esporas sexuales (ascosporas).

Unas pocas especies se documentan como patógenos ocasionales en el ser humano. La enfermedad invasiva por estos hongos es muy rara y aparece asociada con frecuencia a neutropenia grave, catéter venoso central permanente, tratamiento antibiótico o cirugía abdominal, y actúan como patógenos oportunistas. El *Saccharomyces cerevisiae* es la especie que se aisla con más frecuencia[3].

No se encontró ningún caso publicado de fungemia por *I. terricola* después de buscar en las bases de datos PubMed, Embase (OVID), Proquest, ISI Web of Knowledge (incluye Science Citation Index Expanded, Current contents y Medline) e IME y en los buscadores científicos Scirus y Google Scholar *(I. terricola*, *P. terricola* o *S. terricola [case reports* o *review]* o *Saccharomycetaceae [case reports* o *review])*. Como patógeno humano sólo se encontró una referencia a un aislamiento en líquido ascítico[4].

El caso descrito representa el primer caso documentado de fungemia por este hongo levaduriforme, el origen posiblemente sea la droga administrada por vía intravenosa. La ausencia de inmunodeficiencia (el paciente no presentaba anticuerpos anti-VIH) o de otra enfermedad de riesgo pudieron haber contribuido a la resolución de la infección. Por otra parte, la propia enfermedad de adicción a drogas y el comportamiento errático del paciente han dificultado el control de la evolución del proceso.

Agradecimientos

Al Dr. Manuel Cuenca-Estrella del Servicio de Micología del Centro Nacional de Microbiología, Instituto de Salud Carlos III, Madrid, España.

Bibliografía

1. Chen YC, Eisner JD, Kattar MM, Rassoulian Barret SL, La Fe K, Bui U, et al. Polymorphic internal transcribed spacer region 1 DNA sequences identify medically important yeasts. 2001;39:4042–51.
2. Suh SO, Blackwell M, Kurtzman CP, Lachance MA. Phylogenetics of Saccharomycetales, the ascomycete yeasts. Mycologia. 2006;98:1006–17.
3. Nielsen H, Stenderup J, Bruun B. Fungemia with *Saccharomycetaceae*. Report of four cases and review of the literature. Scand. J Infect Dis. 1990;22: 581–4.
4. Linton CJ, Borman AM, Cheung G, Holmes AD, Szekely A, Palmer MD, et al. Molecular identification of unusual pathogenic yeast isolates by large ribosomal subunit gene sequencing: 2 years of experience at the United Kingdom Mycology Reference Laboratory. J Clin Microbiol. 2007;45:1152–8.

Andrés Agulla [a,*], Patricia Ordóñez [a], Hortensia Álvarez [b] y Ana Mariño [b]

[a] *Servicio de Microbiología, Complexo Hospitalario Arquitecto Marcide, Área Sanitaria de Ferrol, A Coruña, España*

[b] *Unidad de Enfermedades Infecciosas, Complexo Hospitalario Arquitecto Marcide, Área Sanitaria de Ferrol, A Coruña, España*

*Autor para correspondencia.
Correo electrónico: jose.andres.agulla.budino@sergas.es (A. Agulla).

doi:10.1016/j.eimc.2009.07.010

Community-associated methicillin-resistant *Staphylococcus aureus* disease in two members of a household in Spain

Infección invasora por Staphylococcus aureus comunitario en dos miembros de una familia

Dear Editor:

We present 2 cases of community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) pneumonia in a young, previously healthy woman and her newborn. To the best of our knowledge this is the first reported intra-family cluster of CA-MRSA pneumonia. If reported cases of household transmission of invasive CA-MRSA increase, stricter infection control measures might be needed in the management of these patients and their households.

Patient 1 (PT1). A 38-year-old Filipino woman with a past medical history of mild asthma was admitted to our institution with severe community-acquired pneumonia. Bilateral alveolar infiltrates were observed on chest radiographs. She was admitted to the intensive care unit (ICU), and antimicrobial therapy with ceftriaxone and clarithromycin was started. She had migrated to Spain 4 years before and lived in a 3-bedroom flat with 8 other people, all adults except for her baby boy, who was born 3 months before through an uncomplicated vaginal delivery. Clinically, she remained intermittently febrile during her ICU stay. On hospital day (HD) 4, the 2 sets of blood cultures obtained on admission were reported to be positive for MRSA. The isolate was susceptible to all other non-beta-lactam antimicrobials routinely tested, including clindamycin, erythromycin, trimethoprim/sulfamethoxazole, doxycycline, aminoglycosides, and levofloxacin, among others. Antimicrobial therapy was then switched to vancomycin and levofloxacin, and the patient rapidly defervesced. New blood cultures were negative and a transesophageal echocardiogram was performed without evidence of infective endocarditis. On HD 10, vancomycin and levofloxacin were discontinued and linezolid 600 mg bid po was started to complete 4 weeks of therapy without further complications.

Patient 2. (PT2) Twelve days after admission of PT1, her 3-month-old baby boy was admitted to our hospital with a 24-hour history of irritability, somnolence, and fever. On chest radiography, a right lower lobe infiltrate was seen. Antimicrobial therapy with vancomycin and cefotaxime were started. The patient's condition remained mainly unchanged, with persistent fever and elevated inflammatory markers. A second chest radiograph showed significantly increased right pleural effusion. Culture of the pleural fluid yielded MRSA with the same susceptibility pattern as that observed in PT1. The pleural effusion was percutaneously aspirated and antimicrobial therapy was changed to linezolid and meropenem. Soon after, the patient became afebrile and received 4 weeks of antimicrobials without further complications.

Family environment: PT1 and PT2 shared a 3-bedroom flat in the metropolitan area of Madrid with 7 more people, all of Filipino ethnicity. Nasal swabs for culture were obtained from all the household members. MRSA with an identical susceptibility pattern was isolated in one of them.

Molecular typing of the isolates: Clinical isolates from both patients and the one obtained from the healthy household member were analyzed by sequencing of the protein A gene polymorphic region (*spa*-typing). All isolates were found to belong to *spa*-type 019, which has been described only in clone ST30, also known as the South Pacific clone. Analysis by PCR showed that the 3 isolates carried the SCCmec element of type IV and the *lukPV* genes (coding for the Panton-Valentine leukocidin [PVL]).

Discussion: We herein report 2 cases of CA-MRSA pneumonia in a household setting of previously healthy young individuals of Filipino ethnicity in Spain. The epidemiology of CA-MRSA infections in the United States has been extensively investigated, and they known to account for most skin and soft tissue infections (SSTIs). There are fewer data on the magnitude of this problem in other areas of the world, although it appears that the incidence of CA-MRSA infection in countries other than USA is generally lower. For instance, in a prospective study conducted between 1999 and 2003 in a French 500-bed community hospital study including 197 patients with community-acquired staphylococcal SSTI, only 3% had criteria for CA-MRSA infection.[1] Figures in the United Kingdom and Scandinavian countries seem to be somewhat higher. In a recent nationwide point-prevalence study of all MRSA isolated in a single day in 149 Spanish hospitals, none of the isolates produced PVL.[2] Nevertheless, there are recent reports of CA-MRSA infections, mainly SSTI, in the immigrant population in Spain.[3,4] Regarding the overall molecular epidemiology of CA-MRSA**,** Vandenesch et al[5] found that the CA-MRSA sequence type (ST) showed clear continent specificity: ST-1 in USA, ST-80 in Europe (European clone) and ST-30 in Oceania (Southwest Pacific clone) and suggested the possibility of simultaneous co-evolution of CA-MRSA organisms in different locations.

Several authors have reported clustering of CA-MRSA colonization in households.[6] Nevertheless documentation of intrafamilial clusters of CA-MRSA infections, mainly in the setting of SSTI, is relatively rare.[7–9] To the best of our knowledge, this is the first report of clustered invasive CA-MRSA infections within a household. Currently there are many uncertainties regarding the infection control measures to adopt in the household setting when CA-MRSA has been diagnosed.[10] As opposed to the hospital setting, the association between nasal colonization and infection in the community is not so straight forward. Furthermore, colonization of different sites (pharynx, axilla, rectum, peritoneum) may also have an important role, and there are no studies that inconclusively support the benefit of decolonization. With this level of evidence, the CDC recommends clinicians to ask about similar cases of SSTI in household members and other close contacts and reinforce basic hygienic measures among them. Nasal decolonization with topical mupirocin and antiseptic body washes are recommended in patients with recurrent infection and when ongoing MRSA transmission is occurring in a well-defined, closely-associated cohort, such as a household.