Open Forum Infectious Diseases

ID IMAGES

Primary Cutaneous Cryptococcosis: A New Case of This Rare Entity

Cintia Arjona-Aguilera, David Jiménez-Gallo, Cristina Collantes-Rodríguez, and Mario Linares-Barrios

Dermatology Department, University Hospital Puerta del Mar, Andalusian Health Service, Cádiz, Spain

Keywords. cellullitis; *Cryptococcus neoformans*; cutaneous cryptococcosis; inmunosupression.

CLINICAL IMAGES

A 42-year-old female with past medical history of renal transplant in 2011 under immunosuppressant treatment due to a congenital nephropathy, and viral hepatitis C positivity without evidence of active disease, consulted for a 1-month history of eritemato-edematous painful plaques with erosions at the posterointernal area of the left thigh (Figure 1A). She denied any recent trip. It was unresponsive to several courses of antibiotics including cloxaciline, cefriaxone, linezolid, and meropenem. She was afebrile and blood tests showed mild leucocitosis, C-reactive protein of 509 mg/L, and negative cultures. The dermatophatologic study showed numerous encapsulated round yeast cells invading skin and subcutaneous tissue, more easily visible within phagocytes, and chronic granulomatous inflammatory infiltrate (Figure 1B, hematoxylin and eosin ×10 left and ×20 right). Methenamine-silver stain was positive (Figure 1C, ×60). Further studies (thoraco-abdominopelvic computed tomography, retinography, lumbar puncture, *Cryptococcus* Antigen Latex Agglutination [crypto-latex] test in cerebrospinal fluid [CSF] and blood) ruled out extracutaneous disease. Cultures were positive for *Cryptotoccus neoformans* in skin specimens and negative in CSF. Intravenous liposomal amphotericin B 5 mg per kilo daily and flucytosine 50mg per kilo every 48 hours were administered for 2 weeks, and subsequently oral fluconazole 200mg every 24 hours (adjusted to kidney function) for 10 weeks, without any adverse events related to these treatments. Regular dressings were performed at outpatient facilities using potassium permanganate solution 1:10 000 and mupirocine cream then covered with surgical cotton bandages, until the lesions were completely cured.

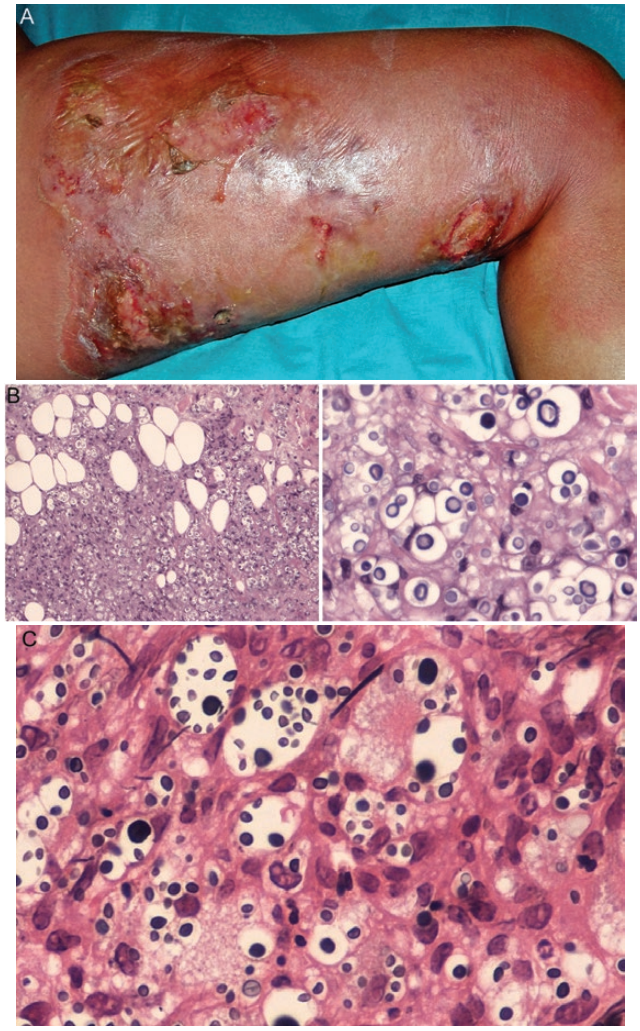

Figure 1. (A) Ill-defined erythematous violaceous plaques with areas of ulceration, on the right thigh of an immunosuppressed patient. (B) Dermis and subcutaneous fat tissue heavily colonized by encapsulated yeast cells of varying size, accompanied by chronic granulomatous inflammatory infiltration with occasional giant cells. Hematoxylin and eosin, ×10 (left), ×20 (right). (C) A positive methenamine-silver stain demonstrated the presence of encapsulated yeasts of 1–3 mm, ×60.

Cryptotoccus neoformans is a very ubiquitous human pathogen, and the main sources of infection are excrement from pigeons or other birds, as well as decomposing wood, fruit, and vegetables [1, 2]. The most frequent infections are pulmonary

Received 2 November 2016; editorial decision 19 December 2016; accepted 27 December 2016.
Correspondence: C. Arjona Aguilera, PhD, Unidad de Gestión Clínica Dermatología y Venereología, Hospital Universitario Puerta del Mar, Avda. Ana de Viya, 21, 11009 Cádiz, España (cintiaarjonahotmail.com).

Open Forum Infectious Diseases®

DOI: 10.1093/ofid/ofw276

cryptococcosis and cryptococcal meningitis [2, 3], although cases of endocarditis, pyelonephritis, arthritis, osteomyelitis, and prostatitis have been described [1, 4]. Primary cutaneous cryptococcosis (PCC) is a rare condition only recognized since 2003 1–5. It usually presents as a single infiltrative lesion limited to the skin and the subcutaneous cellular tissue without evidence of systemic dissemination [1–5]. Clinical diagnosis is difficult due to its nonspecific presentation: a single infiltrative lesion resembling cellulitis, herpetic whitlow, subcutaneous nodules, and/or ulceration. There is a notably higher prevalence of serotype D and a much better prognosis compared with the disseminated cryptococcosis [2, 3]. The treatment of cryptococcosis is well covered in the Infectious Diseases Society of America (IDSA) Guidelines of 2010.

In our case, the clinical picture of localized subacute cellulitis, absence of fever, histopathological findings, negative extension study, and the excellent response to treatment led to the diagnosis of PCC. Cellular immunosuppression is a well known risk that was present in our patient. The positive result of the crypto-latex test on peripheral blood cells may be explained by the large extent of the cutaneous infection. The patient lives in an urban area where the contact with birds, including large numbers of pigeons, is very common.

CONCLUSIONS

In conclusion, we describe a new case of PCC in an inmunocompromised patient treated successfully following the latest IDSA guidelines. Differential diagnosis of clinically compatible lesions, which do not respond to antibiotic treatment, must be included. It is vitally important to rule out disseminated infection and establish adequate antifungal treatment.

Acknowledgments

Potential conflicts of interest. All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

References

1. Neuville S, Dromer F, Morin O, et al. Primary cutaneous cryptococcosis: a distinct clinical entity. Clin Infect Dis **2003**; 36:337–47.
2. Christianson JC, Engber W, Andes D. Primary cutaneous cryptococcosis in immunocompetent and immunocompromised hosts. Med Mycol **2003**; 41:177–88.
3. Du L, Yang Y, Gu J, et al. Systemic review of published reports on primary cutaneous cryptococcosis in immunocompetent patients. Mycopathologia **2015**; 180:19–25.
4. Liapis K, Taussig D, Cotter FE, Gribben JG. Cutaneous cryptococcosis in Hodgkin lymphoma. Br J Haematol **2014**; 164:467.
5. Béogo R, Andonaba JB, Bamba S, et al. Cryptococcosis: a potential aetiology of facial ulceration. J Mycol Med **2014**; 24:e185–8.