



Autopsy-confirmed fulminant mucormycosis: a skin lesion revealing multiple organ dissemination

Emeric Chatelain¹, Adeline Grateau¹, Thomas Baudry¹ and Laurent Argaud^{1,2*} 

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A 54-year-old man was admitted to the intensive care unit (ICU) with a coma requiring mechanical ventilation (day 1). The Glasgow coma score was 3 and there was no meningeal syndrome. A single inflammatory and necrotic skin lesion on the right thigh was noticed (Fig. 1a). Twelve days earlier, the patient had received autologous haematopoietic stem cell transplantation following immunochemotherapy for a cerebral relapse of primary central nervous system lymphoma. Broad-spectrum antibacterial treatments and caspofungin followed by voriconazole were given during neutropenic fever.

On day 1, brain magnetic resonance imaging found multiple supra- and infra-tentorial lesions with predominant involvement of the right parietal lobe (Fig. 1b). Concurrently, thoraco-abdominal computed tomography

scan found a single round-shaped lesion in the left upper lung and multiple hypodensities suggestive of infarction involving the liver, the spleen and the kidneys (Fig. 1). Transoesophageal echocardiography ruled out endocarditis. Biopsy of the skin lesion found arteriolar angioinvasive mycosis (Fig. 1a). Liposomal amphotericin B was started on day 2. Cerebrospinal fluid and blood cultures obtained in the ICU remained sterile.

Fulminant progression with worsening cerebral oedema and multiple organ failure led to death in the ICU on day 7. An autopsy confirmed the disseminated necrotic lesions with abscesses and vascular occlusions by fungal hyphae (Fig. 1). Skin-lesion cultures grew *Rhizomucor* spp.

*Correspondence: laurent.argaud@chu-lyon.fr

¹ Service de Réanimation Médicale, Hospices Civils de Lyon, Hôpital Edouard Herriot, 5, Place d'Arsonval, 69003 Lyon Cedex 03, France
Full author information is available at the end of the article

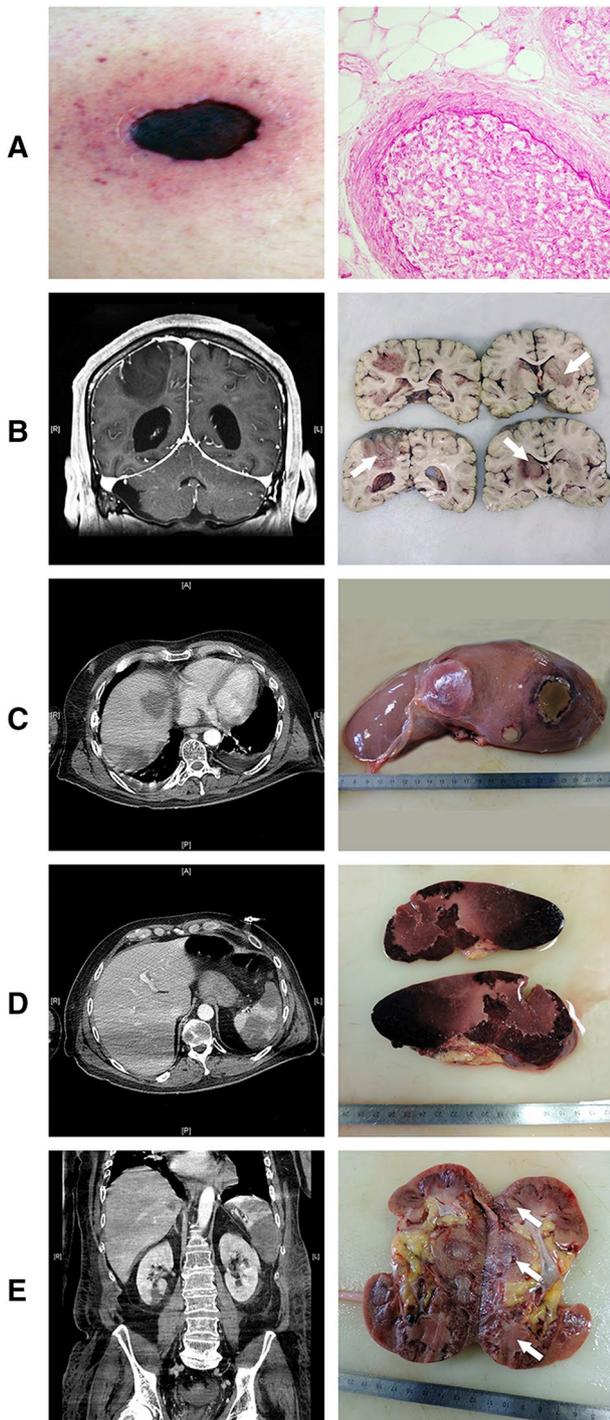


Fig. 1 Clinical and radiological findings with pathology confirmation of disseminated mucormycosis. **a** A well-limited necrotic skin lesion with surrounding erythematous halo on the right thigh first revealed mucormycosis. Pathology confirmed an angio-invasive process, showing mycotic material occluding the lumen of a dermal arteriole. **b** Brain magnetic resonance imaging with contrast-enhanced T1-weighted sequence found a hypointense lesion involving both grey and white matter in the right parietal lobe. Gross pathology found the same parietal lesion and others in the left and right basal ganglia (arrows), all confirmed to be ischaemic infarctions. **c** Abdominal axial section of contrast-enhanced computed tomography (CT) scan found hypodense lesions in the liver segments IVa and VII that were found to be necrotic subcapsular nodules on gross pathology. **d** Both CT scan and autopsy also found extensive infarction involving the spleen. **e** The right kidney was also severely damaged as shown on a coronal section of an abdominal CT scan; three lesions were found on gross pathology (arrows)

In brief, a necrotic skin lesion in the context of severe immunosuppression should alert physicians to mucormycosis with fulminant organ invasion.

Author details

¹ Service de Réanimation Médicale, Hospices Civils de Lyon, Hôpital Edouard Herriot, 5, Place d'Arsonval, 69003 Lyon Cedex 03, France. ² Faculté de Médecine Lyon-Est, Université de Lyon, Université Claude Bernard Lyon 1, 69008 Lyon, France.

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The authors declare that they have no conflict of interest.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of our institutional research committee

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