Aspergillus flavus -

The patient was admitted, and otoscopic examination revealed an unusual ink smudge pattern deep in a cervical abscess. The pattern was consistent with hyalohyphomycosis. Biopsy samples grew 2 bacteria, Corynebacterium striatum and Enterococcus faecalis, and 1 filamentous fungus, Aspergillus flavus, that we identified by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (Microflex LT, https://www.bruker.com) against an in-house database described by Normand et al. (J). Etest antifungal susceptibility testing (bioMérieux, https://www.biomerieux.com) showed that the A. flavus strain was sensitive to voriconazole (MIC 0.380 mg/L) and resistant to amphotericin B (MIC 4.3 mg/L). We stopped administration of auricular drops, continued intravenous ceftazidime (1.5 g/d) and oral ciprofloxacin (1.5 g/d), and started voriconazole therapy (6 mg/kg/12 h intravenously, followed by 400 mg/d orally). Otalgia, otorhea, and inflammatory external auditory canal symptoms were relieved, and the patient recovered after 6 weeks. No further follow-up was available.

Fungi cause ≈10% of MOE (2). The 3 leading species, by decreasing frequency, are A. fumigatus, A. flavus, and A. niger (3). A. flavus is more frequently involved in MOE than is A. niger (3,4).

Jugular vein thrombosis (JVT) was previously reported in MOE (5) and other conditions such as Lemierre syndrome, invasive fungal infection, or any inflammatory process including otitis media. Various pathogens can cause JVT, especially Fusobacterium necrophorum and zygomycetes.

Malignant Aspergillus flavus Otitis Externa with Jugular Thrombosis

Maxime Moniot, Marion Montava, Stéphane Ranque, Ugo Scemama, Carole Cassagne, Varoquaux Arthur

Address for correspondence: Van-Mai Cao-Lormeau, Institut Louis Malardé, PO Box 30, 98713 Papeete, Tahiti, French Polynesia; email: mlormeau@ilm.pf

We report a case of malignant otitis externa with jugular vein thrombosis caused by Aspergillus flavus. Magnetic resonance imaging revealed an unusual ink smudge pattern deep in a cervical abscess. The pattern was consistent with mycetoma and may be important for diagnosing these life-threatening infections.

A 73-year-old male patient sought care from the otorhinolaryngology department at University Hospital, Marseille, France. He had a 5-month history of malignant otitis externa (MOE), which was worsening despite 4 months of treatment with intravenous ceftazidime, oral ciprofloxacin, and topical neomycin, polymyxin B, dexamethasone, and thiomersal combination. The patient had a history of high blood pressure, treated with perindopril and methasone, and thiomersal combination. The patient had a history of high blood pressure, treated with perindopril and methasone, and thiomersal combination. The patient had a history of high blood pressure, treated with perindopril and methasone, and thiomersal combination. The patient had a history of high blood pressure, treated with perindopril and methasone, and thiomersal combination.
Data on JVT in MOE are scarce; we could find no previously reported case of JVT related to A. flavus MOE. Postcontrast CT with soft tissue algorithm is considered the first-line imaging modality to diagnose JVT (5). In our case, both CT and MRI confirmed the diagnosis.

Osteomyelitis and abscess showed on MRI but were hardly visible on CT (Appendix Figure). High-signal T2-weighted imaging is typical in purulent content of abscesses (6). In contrast, this case exhibited an unusual lack of T2-weighted imaging signal. This characteristic pattern is known in various mycetoma locations as paranasal fungus balls (7) or maduromycosis, for which the T2-weighted imaging dot-in-circle sign is specific (8). Most authors explain the signal void as a magnetic susceptibility behavior on T2-weighted imaging resulting from accumulation of iron and other magnetic atoms (9). This case introduced a new T2-weighted imaging signal void pattern we refer to as an “ink smudge” appearance. A bone sequestrum is a differential diagnosis, yet this lesion lacked calcification in CT. We hypothesize that the ink-smudge sign we identified could be specific to fungal infection. This report should prompt careful assessment by MRI of deep-space abscess in patients with MOE.

The standard treatment for fungal MOE is a combination of surgical debridement, systemic antifungal therapy, and control of concurrent conditions. There is no consensus for the duration of the antifungal treatment; patients usually receive 6–8 weeks of antifungal therapy, more if clinical examination or imaging follow-up supports extending treatment (10).

We highlight the potential use of an MRI ink-smudge pattern to identify fungal infection in MOE. Furthermore, because we saw JVT on both postcontrast CT and MRI scans, our findings and these images may be crucial for improving patient prognosis through timely and adequate treatment.
Epizootic Hemorrhagic Disease in White-Tailed Deer, Canada

Samantha E. Allen, Jamie L. Rothenburger, Claire M. Jardine, Aruna Ambagala, Kathleen Hooper-McGrevy, Nicole Colucci, Tara Furukawa-Stoffer, Stacey Vigil, Mark Ruder, Nicole M. Nemeth

Author affiliations: University of Guelph and Canadian Wildlife Health Cooperative, Guelph, Ontario, Canada (S.E. Allen, J.L. Rothenburger, C.M. Jardine, N.M. Nemeth); Canadian Food Inspection Agency, Winnipeg, Manitoba, Canada (A. Ambagala, K. Hooper-McGrevy); Canadian Food Inspection Agency, Lethbridge, Alberta, Canada (N. Colucci, T. Furukawa-Stoffer); University of Georgia, Athens, Georgia, USA (S. Vigil, M. Ruder, N.M. Nemeth)

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Epizootic hemorrhagic disease affects wild and domestic ruminants and has recently spread northward within the United States. In September 2017, we detected epizootic hemorrhagic disease virus in wild white-tailed deer, Odocoileus virginianus, in east-central Canada. Culicoides spp. midges of the subgenus Avaria were the most common potential vectors identified on site.

Epizootic hemorrhagic disease viruses (EHDVs) and bluetongue viruses (BTVs) are Culicoides spp. midge-transmitted orbiviruses that represent an imminent threat to the health of ruminant livestock and wildlife. For susceptible ruminants, EHDV and BTV infections can result in high rates of illness and death, leading to severe economic hardship to the agricultural sector (1). These viruses have a historical geographic range of 40°N–50°N and 35°S, following the distribution of the Culicoides vectors. However, the epidemiology of these pathogens is changing, with decades of northward expansion into areas of Europe and North America with immunologically naive hosts (1–3).

In Canada, EHDV has rarely and sporadically been detected in the southern portions of British Columbia, Alberta, and Saskatchewan (4). We report the detection of EHDV in white-tailed deer, Odocoileus virginianus, in east-central Canada, providing further evidence of the northern range expansion of orbiviruses within North America.

On September 7, 2017, two wild white-tailed deer carcasses were found in a seminatural area adjacent to a

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1Current affiliation: University of Calgary, Calgary, Alberta, Canada.
2Current affiliation: University of Georgia, Athens, Georgia, USA.