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Bug bite in neutropenic patient?

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A 49-year-old female with history of AML status post consolidation chemotherapy with HiDAC was admitted to the hospital with neutropenic fever, fatigue and headache. Initial infectious workup including a chest x-ray as well as blood and urine cultures was unremarkable. The patient reported a pruritic bump on her right forearm that she attributed to an unwitnessed spider bite which occurred 4 days earlier. On examination, the patient had a non-tender 2 cm erythematous nodule with central black eschar on the right extensor forearm.

Wedge biopsy of the nodule showed extensive dermal mixed inflammation, necrosis and hemorrhage. Fungal hyphae and spores were conspicuously present within the mid-deep dermis in addition to vessel walls and lumens. GMS was strongly positive. Fite and AFB stains were negative. Fungal culture grew *Exserohilum* species. CT chest showed nonspecific nodular consolidations with ground glass opacities concerning for pulmonary involvement of angioinvasive fungus. MRI of brain and liver as well as an eye exam were normal. The patient was initially started on Amphotericin, Voriconazole while inpatient, then discharged home on Voriconazole.

Angioinvasive fungus, with a propensity for tissue walls leading to significant ischemia and necrosis can cause significant mortality in immunosuppressed patients. Cutaneous manifestations range from pink to purple macules, papules, plaques to hemorrhagic ecthyma gangrenosum-like lesions. *Exserohilum* is an uncommon pathogen but is well documented to cause invasive skin infections and disseminated disease in immunocompromised hosts. It is crucial to maintain a high suspicion of atypical infections in immunosuppressed patients as disseminated disease can be fatal.

References:

Shields BE, Rosenbach M, Brown-Joel Z, Berger AP, Ford BA, Wanat KA. Angioinvasive fungal infections impacting the skin: Background, epidemiology, and clinical presentation. *J Am Acad Dermatol*. 2019;80(4):869-880.e5. doi:10.1016/j.jaad.2018.04.059