34-year-old man with AML who presented with sudden onset of headache and fever. Review of the sinuses revealed crusting and necrosis.

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What is the diagnosis?
Acute Invasive Fungal Rhinosinusitis
(Also known as Fulminant / Necrotizing Fungal Rhinosinusitis)

**Clinical:** This is an aggressive tissue and vascular invasive fungal disease typically affecting immunocompromised patients. Symptoms tend to last <4 weeks in duration. Small lesions may rapidly progress to involve the sinuses/face/orbit, resulting in tissue destruction within days. Treatment requires surgical debridement with intravenous antifungal agents. Mortality rates are high.

**Histology:** Fungi (Zygomycetes/Aspergillus) seen within mucosal and submucosal tissues, including in vascular spaces. Tissue necrosis present. Inflammatory response may be limited.

**Ancillary studies:** Grocott and PAS positive. In situ hybridization using specific fungal probes can identify fungi.