

Blowing a nose black and blue

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In June, 2006, a 32 year-old woman, working as an architect at the archaeological site of Pompeii, noticed that her nose was blocked, especially the right nostril. When she blew her nose, the mucus was black. A few days later, she developed a dry cough, and intermittent fever. Her general practitioner referred her to an otolaryngologist. Nasal examination showed no abnormality, other than mild septal deviation. Skin-prick tests for allergy gave negative results, as did nasal smears for bacteria and fungi; CT of the sinuses showed nothing of note. Nonetheless, the patient's nasal blockage and rhinorrhoea worsened; she had occasional fever spikes, and was referred to an infectious-diseases specialist. Chest radiography and pulmonary function tests gave normal results; blood tests showed a high concentration of C-reactive protein, mild neutrophilia and, although no fungal hyphae had been found in nasal smears, antibodies to aspergillus. Oral itraconazole (100 mg daily) was therefore prescribed; 2 months later, no benefit had been observed.

We saw the patient in September, 2007. Nasal endoscopy, CT of the sinuses, and allergy tests again gave negative

results. Nasal smears showed no fungi, but we observed black, amorphous bodies, which we interpreted as cellular debris (figure). We suggested that the patient clean her nose and sinuses with a douche, which allowed a continuous flow of saline through the nose. During the first washing, a small insect was expelled from the nostril; immediate symptomatic improvement ensued. The patient informed us, and the insect was collected, and identified as *Clogmia albipunctata* [=Telmatoscopus albipunctatus]. We deduced that the amorphous black objects were insect faeces. The fever, cough, and nasal obstruction completely resolved within a few days—however, the black discharge continued, although, given the mucociliary clearance rate, we had expected it to disappear in about 2 days. The patient became depressed and frustrated, and feared that she had other insects in her nose, although this possibility was excluded by CT and MRI. During a consultation, we noticed that she wore eyeliner. She confirmed that she sometimes used a kohl pencil. We asked her to stop. The black secretion disappeared within 2 days. We realised that kohl, mixed with tears, had been passing through an abnormally patent nasolacrimal duct, and produced the black-pigmented bodies previously identified as insect faeces. When the patient wore blue eyeliner, blue nasal secretions appeared.

Our lessons from this event? When usual diagnoses for common illnesses such as rhinitis^{1,2} are excluded, reflect on underlying mechanisms, and consider the (nearly) impossible. In this case, the nasolacrimal duct was, unusually, wide enough to host an insect, and to allow kohl fragments to enter the nose. What caused the systemic inflammation? The patient did not have conjunctivitis, although the conjunctiva was in direct contact with her eyeliner. Moreover, the inflammatory symptoms stopped after the fly was ejected. We therefore blame the fly.³ We note, however, that commercial kohl can contain more than 25 different substances, some of which can provoke allergy; health problems have been caused by kohl containing lead. We do not wish to issue a blanket warning against kohl. Ingredients of kohl vary markedly. In south Asia, and across much of the Muslim world, traditional recipes are regarded as medicinal. Much-feared Pashtun warriors historically applied kohl before surging into battle.

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Contributors

All authors contributed to clinical management and discussion of the case, and to the preparation and revision of this report. All have seen and approved the final version.

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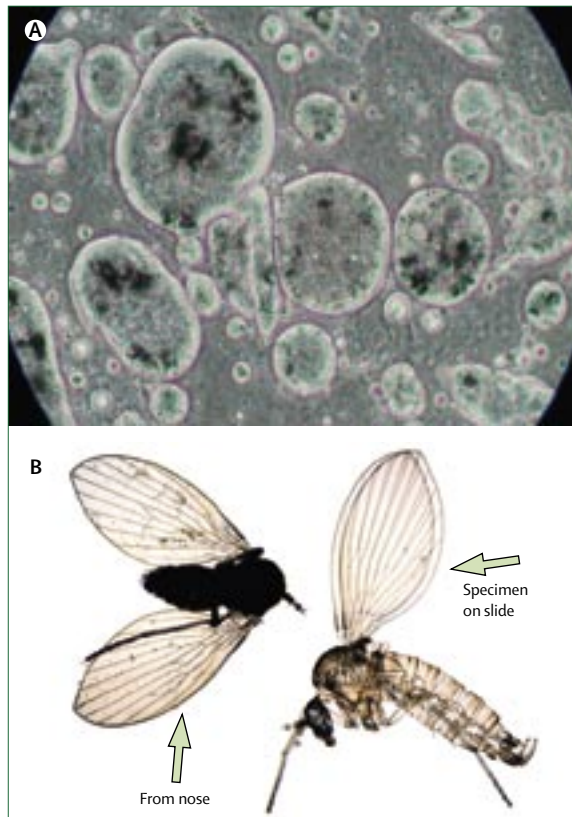


Figure: What is coming out of the nose?

(A) Nasal smear, showing small black objects; magnification $\times 1000$.

(B) *Clogmia albipunctata*, a large two-winged object.

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