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Avian Ecto Parasite Infestation in the Hospital

To the Editor—This is to add on to the interesting article by Munoz-Price et al[1] on bed bugs in the healthcare sector, published in the November 2012 issue of *Infection Control and Hospital Epidemiology.* Infestation with pests is rarely reported in the healthcare sector, and such reports are even less common in a country like India, where the capture of healthcare-associated infection data is itself a challenge. We report here 2 episodes of pigeon mite infestation at our institute.

Operation theatre (OT) technicians informed the infection control team of severe itching after putting on OT uniforms. Ten members of the staff had severe skin allergy (urticaria), and 1 staff member had anaphylactic (asthma-like) symptoms that required treatment by OT doctors. On close examination, several uniforms revealed small mites crawling all over the linen, which we identified as the pigeon mite (Figure 1). We traced the source of infestation to pigeon droppings that had entered the staff room through a crack in the roof. The area above the roof was open, and pigeons had access to this area. Recently, this area had been cleaned as a part of regular maintenance.

An emergency meeting was held with the relevant staff (housekeeping, maintenance, and laundry staff and management personnel). The staff room was vacated, the roof was repaired, and the area was washed with soap and water and disinfected with bleach. This cleaning was done repeatedly over a 1-week period to ensure that no remnants of pigeon droppings remained. All of the uniforms were sent to the laundry. We could control this menace by following the basic principles of hygiene and disinfection.

A second episode occurred 6 months later. Similar complaints were received from staff members who experienced allergic reactions subsequent to changing bed sheets in a patient room. On examination, a line of mites was discovered making their way down the wall to the bed from the air conditioning duct. On inspection, pigeon droppings were found in the duct. Pigeons had accesses to the duct through

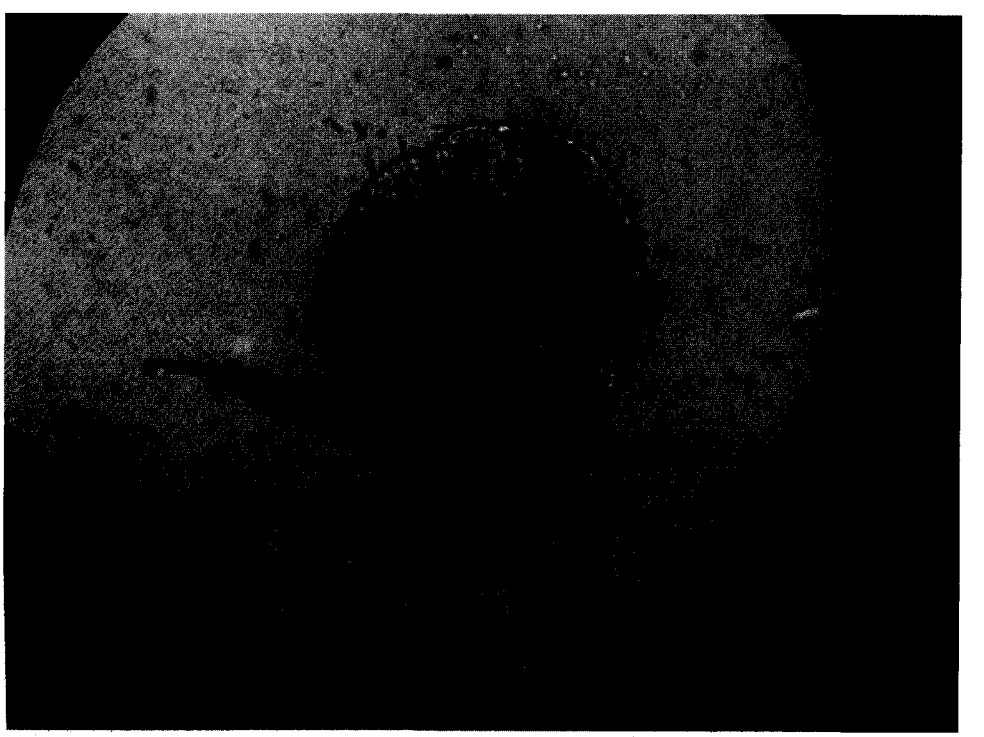


FIGURE 1. Picture of a pigeon mite.

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a broken outlet. The duct was cleaned and disinfected with bleaching powder. The point where the duct was being accessed was covered with mesh to prevent the entry of pigeons.

Pigeon mites are an avian ectoparasite that feeds on pigeons. Bird mites (avian mites) are parasitic arthropods in the Acari (mite and spider) family. There are reportedly 45,000 known species of mites. In the absence of their natural host, they infest humans. The bites provoke allergic (at times, severe) reactions. The bird mite life cycle consists of an egg, larva, nymph, and mature adult. They can complete this cycle in approximately 7 days, depending on the environment. The mature mite has 4 pair of legs, and the immature nymph has 3 pair of legs. Bird mites have a sharp, protruding mouthpiece that allows them to penetrate skin to obtain blood from the host mammal. The adult female needs blood to reproduce. An unfed mature mite may or may not be seen with the naked eye. Bird mites are tenacious, and once they have identified a host, they are able to quickly adapt and remain in that environment indefinitely. Left unchecked, their population can soon grow into the thousands.[2]

The intense itching and irritation is attributable to the saliva that the mites secrete when attached to the skin, and it may last for days after the mite is no longer attached, even when the skin does not show any visible signs. Reports of human disease attributed to bird mites are rare, but they do occur. Symptoms might vary from mild itching to severe redness to intense allergic reactions, as seen in our staff.[3] Healthcare areas need to be cleaned and kept free of pigeons.

Hospitals should keep in mind the possibility of infestation with such mites, either in healthcare workers or in patients. Awareness programs for the staff and public should be held to prevent any such healthcare issues, and hospitals should be encouraged to report such outbreaks to prevent nosocomial infestation.

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