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Images in Clinical Tropical Medicine

Ultrastructure of Sarcoptes scabiei in Crusted Scabies

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A 38-year-old woman presented with pruritic, erythematous, fissuring hyperkeratotic plaques involving the trunk and both arms for the previous 4 years. The disease worsened after topical use of glucorticosteroid cream prescribed for eczema. Her past medical history included epilepsy, schizophrenia, and polio when she was 6 years old. Diffuse erythema and scaling of the skin and hyperkeratotic, yellow-crusted lesions accompanied with fissures were observed on both hands (Figure 1). Her laboratory values were notable for an elevated eosinophilia (1.22 × 10⁹/L; normal <0.5 × 10⁹/L) and low total albumin (22 g/L; normal 40–55 g/L). A microscopic examination of scrapings from the hyperkeratotic lesions showed numerous Sarcoptes scabiei mites (Figure 2). A diagnosis of crusted scabies was made. Her husband also complained pruritus for more than 3 years. Scanning electron microscopy showed adult female mites (Figure 3), female mite with eggs (Figure 4), female mite and scybala (hardened fecal masses) in a burrow (Figure 5), eggs with a larva within, and postpartum eggshells (Figure 6). The patient was unsuccessfully treated with combo therapy including keratolytic solution (Chinese traditional medicine) and topical scabicides (10% precipitated sulfur petrolatum). The patient died of secondary sepsis 1 month later after diagnosis.

Crusted scabies is a relatively uncommon form of infestation with S. scabiei with generalized hyperkeratotic, crusted skin alteration and rarely evolves to erythroderma.¹² Crusted scabies typically affects elderly, debilitated, immunocompromised, or long-term topical or systemic glucorticosteroid patients, the latter of which seems to have been the case...
with the present patient. A human with crusted scabies has innumerable mites with a high propensity to affect others who come into direct contact.\textsuperscript{3}

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