## **Images in Clinical Tropical Medicine**

## Periungual Tungiasis in the Democratic Republic of Sao Tome and Principe

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A healthy 26-year-old Taiwanese man working in the Democratic Republic of Sao Tome and Principe in West Africa presented with a brownish lesion on the medial edge of his right third toe (Figure 1). Examination found multiple eggs of sand flea Tunga penetrans (white arrowhead in Figure 1) after applying lateral pressure. After the excision of the embedded jigger flea from the brownish lesion (Figure 2), he recovered completely. Endemic is in sub-Saharan Africa, Caribbean region, Latin America, and the subtropical regions of Asia.1 Tungiasis is an ectoparasitosis involved in the periungual regions of the skin burrowed by the female sand flea<sup>2</sup>; the infestation usually occurs over unprotected feet. The lesion contained hindquarters of the dead female sand fleas, which deposit hundreds of eggs in the skin tissues (Figure 2), and can become the source of bacterial superinfection. Early recognition and excision is curative.



FIGURE 1. A white-yellowish, small (4 mm in diameter) nodule with a notable central pigmented ring was observed on the right forefinger. Multiple eggs were deposited below this lesion and great toe (arrowheads).

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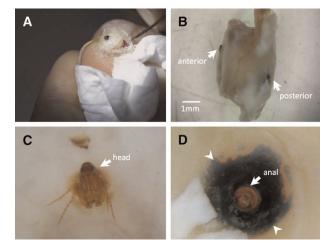


FIGURE 2. Dermoscopic image of the nodule and extraction of the jigger flea ( $Tunga\ penetrans$ ) with a sterile needle. ( $\bf A$ ) The flea with its white-yellowish abdomen enlarged markedly to ~4 mm in size with eggs; ( $\bf B$ ) lateral view of the head and abdomen of the flea; ( $\bf C$ ) frontal view of the head of the flea; ( $\bf D$ ) posterior abdomen of  $Tunga\ penetrans$  (arrowheads) with a central pigmented ring (arrow) that corresponds to the pigmented chitin surrounding the posterior opening of the exoskeleton.

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## **REFERENCES**

- Heukelbach J, Oliveira FA, Hesse G, Feldmeier H, 2001. Tungiasis: a neglected health problem of poor communities. Trop Med Int Health 6: 267–272.
- Lefebvre M, Capito C, Durant C, Hervier B, Grossi O, 2011. Tungiasis: a poorly documented tropical dermatosis. *Med Mal Infect 41*: 465–468.

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