



Case study

Human feet bitten by multiple brown dog ticks, *Rhipicephalus sanguineus*Akira Kobayashi^a, Hiromichi Iwasaki^{b,*}^a Division of Internal Medicine, Nanmei-kai Miyagami Hospital, Kagoshima, Japan^b Department of Infection Control and Prevention, Faculty of Medical Science, University of Fukui, 23-3 Shimoaizuki, Matsuoka, Fukui, 910-1193, Japan

A 69-year-old man presented with many ticks on both feet. Multiple engorged adult ticks were observed on his soles (Fig. 1). Larvae, nymphs, adults and nymph exuviae were seen on the dorsum of both feet, and the patient had elongated toenails (Fig. 2). The patient suffered a brain infarction 14 years ago. Since his wife died a year before, and his pet dog died soon after, he became seriously depressed and lost the will to live. The ticks were identified as brown dog ticks, *Rhipicephalus sanguineus*. Three developmental stages of *R. sanguineus* were identified: larvae, nymphs, and adults.

R. sanguineus is one of the most widespread ticks in the world and has great medical and veterinary significance because it is a vector and reservoir of many human and animal pathogens (e.g., *Coxiella burnetii*, *Ehrlichia canis*, *Rickettsia conorii*, and *Rickettsia rickettsii*). The domestic dog is the main host of *R. sanguineus* [1,2]. A few cases of human parasitism by *R. sanguineus* ticks have been described in literatures [3,4]. Recent studies have shown that *R. sanguineus* ticks exposed to high temperatures are more prone to bite humans. This scenario



Fig. 2. Patient's elongated toenails, and living *Rhipicephalus sanguineus* between digits of the foot.



Fig. 1. Multiple engorged adult ticks.

suggests that global warming could affect *R. sanguineus* populations around the world and, consequently, the epidemiology of certain tick-borne infections [2].

Following the removal of more than 50 ticks from his feet, the patient exhibited a good post-treatment course without any obvious sequelae.

References

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