

capacity to cause toxicosis,<sup>4</sup> or for being borreliosis (relapsing fever) vectors.<sup>5</sup> These ticks are natural parasites of mammals (mainly rodents) and birds living in caves, tree hollows, nests, and attics of houses. Ticks become infected when they feed on animals (primary hosts) that carry the bacterium in their blood. The disease is transmitted to humans by the bite of infected ticks.<sup>6</sup> In Brazil, toxicosis in humans has been reported in the states of Rio Grande do Sul, Minas Gerais, Goiás, Pernambuco, Rio Grande do Norte, and Ceará, with *Ornithodoros brasiliensis*, *O. mimon*, and *O. rietcorrei* as the related tick species (Figure 2A).<sup>7-9</sup> The most common clinical manifestations included local pruritus, edema and erythema, blister lesions, and systemic involvement (transient fever, dyspnea, and malaise) (Figure 2B- C).<sup>4,7</sup> Topical or systemic corticosteroids and antihistamines may be used as treatment options.<sup>4</sup>


Both clinical entities presented here should be considered in the medical evaluation of tick bite-associated lesions. In such cases, dermatologists may contribute to the diagnosis of these diseases. □

#### REFERENCES

- Haddad V Jr, Haddad MR, Santos M, Cardoso JLC. Skin manifestations of tick bites in humans. *An Bras Dermatol*. 2018;93:251-5.
- Faccini-Martínez AA, de Oliveira SV, Cerutti Junior C, Labruna MB. Febre maculosa por *Rickettsia parkeri* no Brasil: Conduas de vigilância epidemiológica, diagnóstico e tratamento. *J. Health Biol Sci*. 2018;6:299-312
- Krawczak FS, Muñoz-Leal S, Guztzaky AC, Oliveira SV, Santos FC, Angerami RN, et al. *Rickettsia* sp. strain Atlantic rainforest infection in a patient from a spotted fever-endemic area in Southern Brazil. *Am J Trop Med Hyg*. 2016;95:551-3.
- McGinley-Smith DE, Tsao SS. Dermatoses from ticks. *J Am Acad Dermatol*. 2003;49:363-92.
- Muñoz-Leal S, Faccini-Martínez AA, Costa FB, Marcili A, Mesquita ETKC, Marques EP Jr, et al. Isolation and molecular characterization of a relapsing fever *Borrelia* recovered from *Ornithodoros ruidis* in Brazil. *Ticks Tick Borne Dis*. 2018;9:864-71
- Estrada-Peña A, Jongejan F. Ticks feeding on humans: a review of records on human-biting Ixodoidea with special reference to pathogen transmission. *Exp Appl Acarol*. 1999;23:685-715.
- Reck J, Marks FS, Guimarães JA, Termignoni C, Martins JR. Epidemiology of *Ornithodoros brasiliensis* (mouro tick) in the southern Brazilian highlands and the description of human and animal retrospective cases of tick parasitism. *Ticks Tick Borne Dis*. 2013;4:101-9.
- Labruna MB, Marcili A, Ogrzewalska M, Barros-Battesti DM, Dantas-Torres F, Fernandes AA, et al. New records and human parasitism by *Ornithodoros mimon* (Acari: Argasidae) in Brazil. *J Med Entomol*. 2014;51:283-7.
- de Oliveira SV, Bitencourth K, Borsoi ABP, de Freitas FSS, Castelo Branco Coelho G, Amorim M, et al. Human parasitism and toxicosis by *Ornithodoros rietcorrei* (Acari: Argasidae) in an urban area of Northeastern Brazil. *Ticks Tick Borne Dis*. 2018.

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## Reply/ Correspondence ▼

Answer from the authors of the article “Skin manifestations of tick bites in humans” to Dr. Stefan Vilges de Oliveira and Dr. Álvaro A. Faccini-Martínez

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We are grateful for the comments which will certainly enrich the ever-evolving knowledge about tick-borne diseases, both those caused by parts of the tick's mouth remaining in the skin after the bite and the infectious diseases transmitted by the arthropods. We are sure that the letter will draw readers' attention and will fulfill the function intended by the authors. However, it should be clear that the purpose of the article was not to exhaust the subject, but, as a medical text, to propose a practical classification so that dermatologists and other professionals in the field of Tropical Medicine know more about the problem and know how to evaluate later complications caused by the bites. However, due to the constant evolution of studies on tick-borne diseases, the scientific significance of this type of text may be limited (although the most frequent diseases are all approached by the study). On the other hand, the idea of classification based on a clinical observation and consequent therapeutic indication, the primary objective of the work remains – and will remain – current.<sup>1</sup> □

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#### REFERENCES

- Haddad V Jr, Haddad MR, Santos M, Cardoso JLC. Skin manifestations of tick bites in humans. *An Bras Dermatol*. 2018;93:251-5.

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