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Letter to the editor

First diagnostic cases of human babesiosis in Montenegro

Dear Editor,

Babesiosis is a parasitic infection similar to malaria. It belongs to the group of vector-borne transmissible zoonoses.¹ The primary vectors are various types of ticks.² Dispersion of the infection is enabled by a wide range of reservoirs for parasites (domestic and wild mammals).^{2–4} Examinations in Europe proved that the *Babesia* parasite is the most frequent agent in coinfections with *Borrelia burgdorferi*.⁵ The first diagnosed cases of human babesiosis in Montenegro were registered in 2011, at the Infectious Disease Clinic in Podgorica.⁶

In our ten examined patients, clinical characteristics and laboratory findings were not specific. Manifest *Erythema migrans* (EM) was observed in six patients. In seven cases, *Lyme borreliosis* was diagnosed by Elisa method. The diagnosis of babesiosis was confirmed in all ten patients by analysis of the bone marrow biopsy, stained according to Romanowski, and in four patients by analysis of thick drop and peripheral blood smear, stained by Giemsa-I. Seven cases had coinfection with *Borrelia burgdorferi* and *Babesia* agents.

In the clinical picture, non-specific symptoms of common infectious syndromes predominated. Changes in blood and differential blood pictures were registered for every patient. Intraerythrocytic annular forms of the parasite *Babesia* spp. were found in histological cultures (Fig. 1). In comparison with *Plasmodium*, *Babesia* does not cause pigment in erythrocytes, nor does it produce schizonts or gametocytes.

After the diagnosis was made in all ten cases, treatment was administered: clindamycin + quinine sulphate in a course

of seven days. In seven cases, positive response to the treatment was very good. In three cases of coinfections, treatment was not satisfactory. One case developed transitory thrombocytopenia. One case developed facial palsy and another case had transitory cardiac arrhythmia. Cases with *B. burgdorferi* and *Babesia* spp. coinfections were confirmed. Therapy with doxycycline 100 mg bid was continued for three weeks.

Although the first cases of human babesiosis in Montenegro were diagnosed in 2011, veterinary health services in Montenegro have been diagnosing cases of the disease in domestic animals for years, in areas where babesiosis is endemic.⁶

Montenegro represents the perfect environment for a wide range of vector-borne zoonoses, because of its geographical position (Mediterranean region), ecological characteristics, and demographic characteristics.⁴

In endemic areas, the asymptomatic forms of babesiosis are the most frequent. Asymptomatic parasitemia can last for months and even years. These latent infections can be reactivated by stress, splenectomy, and immunosuppressive therapy. In human infections, *Babesia* is a significantly opportunistic agent.

Conflict of interest

All authors declare to have no conflict of interest.

REFERENCES

1. Acari M, Badendine A, Bennet CE. A-Z guide to parasitology. Babesia, Tripanosomes & Leishmania, 11. Diosis Ltd, University Southampton; 2006.
2. Gray J, von Stedingk LV, Gürtelschmid M, Granström M. Transmission studies of *Babesia microti* in *Ixodes ricinus* tick and gerbils. *J Clin Microbiol.* 2002;40:1259–63.
3. Kjemtrup AM, Conrad PA. Human babesiosis: an emerging tick borne disease. *Int J Parasitol.* 2000;30:1323–37.
4. Bogdanka A. Clinical characteristics and diagnosis of tick-borne zoonotic coinfections. [PhD thesis] Novi sad. Serbia: Faculty of Medicine, University of Novi Sad; 2002.

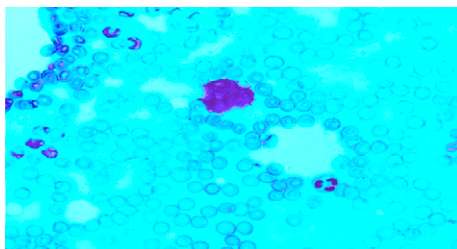


Fig. 1 – Ring forms of *Babesia* parasite in an intraerythrocytic position in our patient.

5. Gray J, von Stedingk LV, Granstrom M. Zoonotic babesiosis. *Int J Med Microbiol.* 2002;291:108-11.
6. Krause PJ, Telford S, Pollack R, et al. Lyme disease and Babesiosis coinfection in humans. *Proceedings of the VI International Conference on Lyme borreliosis. Advances in Lyme Research.* 1994.

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