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Editorial

Babesiosis as an emerging zoonotic disease is caused by infection with hemoparasites of the protozoan genus Babesia which are the second most common blood-borne parasites of mammals a er the trypanosomes [1]. Babesia, the rst recognized arthropod-borne pathogen of vertebrates, was discovered originally by the Romanian bacteriologist Victor Babeș as a cause of febrile bovine hemoglobinuria or red water fever at the end of the 19th century [2].

e rst case of human babesiosis has been reported in 1957 near Zagreb, Croatia in a splenectomized young farmer and subsequently several Babesia species have been documented to involve in human infections in United States, Europe, China, Taiwan, Korea, Japan, India, Egypt, South Africa, Brazil and Mexico [3-10]. Up to now, over 100 species of Babesia have been recorded, infecting many mammalian and some avian species making this disease a global health threat [11].

It is well known that hemolytic anemia as a major clinical manifestation of this infection progression can lead to blood supply disruption, tissue hypoxia and eventually cell death [12]. Moreover, erythrocytes adherence to the microvasculature endothelium can also lead to excessive pro-in ammatory cytokine release and intensi cation of tissue hypoxia [13]. It is noteworthy to mention that blood reperfusion can also result in cell membrane damages and tissue devastation through reactive oxygen species over-generation and neutrophil in ltration [14,15]. Also, it should be borne in mind that activated neutrophils play critical roles in reactive oxygen species, proteases and elastases production resulting in endothelial cell dysfunctions and injuries as well as microvasculopathies [16]. Additionally, hemolysis and hemolytic anemia associated iron overload in tissues can augment oxidative damages, demolish essential macromolecules and exacerbate cytopathies [17].

On the other hand, it is well established that blood ow reduction is associated with testicular germ cell degeneration as well as

References

1. Hunfeld KP, Hildebrandt A, Gray JS (2008) Babesiosis: recent insights into an ancient disease. Int J Parasitol 38: 1219-1237.
2. Nelson DA, Bradley JK, Arya R, Ianosi-Irimie M, Marques-Baptista A, et al. (2009) Babesiosis as a rare cause of fever in the immunocompromised patient: a case report. Cases J 2: 7420.
3. Skrabalo Z, Deanovic Z (1957) Piroplasmosis in man; report of a case. Doc Med Geogr Trop 9: 11-6.
4. Gorenfot A, Moubri K, Precigout E, Carcy B, Schetters TP (1998) Human babesiosis. Ann Trop Med Parasitol 92: 489-501.
5. Bush JB, Isaäcson M, Mohamed AS, Potgieter FT, de Waal DT (1990) Human babesiosis - a preliminary report of 2 suspected cases in South Africa. S Afr Med J 78: 699.
6. Michael SA, Morsy TA, Montasser MF (1987) A case of human babesiosis (preliminary case report in Egypt). J Egypt Soc Parasitol 17: 409-410.
7. Shih CM, Liu LP, Chung WC, Ong SJ, Wang CC (1997) Human babesiosis in Taiwan: asymptomatic infection with a *Babesia microti*-like organism in a Taiwanese woman. J Clin Microbiol 35: 450-454.
8. Kim JY, Cho SH, Joo HN, Tsuji M, Cho SR, et al. (2007) First case of human babesiosis in Korea: detection and characterization of a novel type of Babesia sp. (KO1) similar to ovine babesia. J Clin Microbiol 45: 2084-2087.
9. Saito-Ito A, Tsuji M, Wei Q, He S, Matsui T, et al. (2000) Transfusion-acquired, autochthonous human babesiosis in Japan: Isolation of *Babesia microti*-like parasites with hu-RBC-SCID mice. J Clin Microbiol 38: 4511-4516.
10. Marathe A, Tripathi J, Handa V, Date V (2005) Human babesiosis - a case report. Indian J Med Microbiol 23: 267-269.
11. -like

g CC (1m758i200570003>197 e024000F0003903i2.0Marathe A,Ts0.0n8Day.nr52 ((2005) Human babesiosis -)0.7 (a)0.5 (case))]TJ0 Tw T(report. Indian J rSc2 9gr Trop w d25..no5e1o dPJ rS