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BABEZIOZA PASA – OD KLASIČNIH KONCEPATA DO NOVIH SAZNAJNA

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Kratak sadržaj

Babeszioza pasa predstavlja jednu od najznačajnijih protozoarnih bolesti pasa koje prenose vektori, ali su poslednje dve decenije donele značajne promene u razumevanju biologije, epidemiologije i patogeneze ovog starog parazita. Razvoj molekularnih dijagnostičkih metoda omogućio je redefinisane taksonomije roda *Babesia*, identifikaciju novih vrsta i genotipova, kao i bolje razumevanje njihove geografske rasprostranjenosti, virulencije i specifičnosti za vektore – krpelje. Istovremeno, sve je jasnije da babeszioza nije samo hemolitička bolest koja dovodi do razaranja eritrocita, već kompleksna sistemska infekcija u kojoj imunski odgovor domaćina, inflamatorni medijatori i disfunkcija endotela imaju ključnu ulogu u razvoju kliničke slike i komplikacijama.

Savremena saznanja ukazuju na značaj molekularne epidemiologije u razumevanju biologije različitih vrsta *Babesia*, razlika u njihovoj patogenosti i načinu prenošenja, kao i uloge subkliničkih i hroničnih infekcija u održavanju parazita u populaciji pasa. Istovremeno, nova istraživanja menjaju dosadašnje shvatanje patogeneze anemije i sistemskog inflamatornog odgovora, dok unapređena dijagnostika omogućava precizniju identifikaciju uzročnika i bolje razumevanje epidemioloških obrazaca bolesti. Posebnu pažnju privlače novi terapijski izazovi, sa posebnim akcentom na pojavu terapijskih neuspeha i antiprotozoalne rezistencije, što dodatno objašnjava kompleksnost ovog oboljenja i potrebu za integracijom parazitoloških, molekularnih i kliničkih saznanja u savremenom pristupu babesiozi pasa.

Ključne reči: babeszioza pasa; molekularna dijagnostika; nova saznanja; terapija;

Zahvalnica

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CANINE BABESIOSIS – FROM CLASSICAL CONCEPTS TO NEW INSIGHTS

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Summary

Canine babesiosis is one of the most important vector-borne protozoal diseases of dogs. However, the past two decades have brought significant advances in our understanding of the biology, epidemiology, and pathogenesis of this long-recognized parasite. The development of molecular diagnostic methods has enabled the redefinition of the taxonomy of the genus *Babesia*, the identification of novel species and genotypes, and a better understanding of their geographical distribution, virulence, and vector (tick) specificity. At the same time, it has become increasingly evident that babesiosis is not merely a haemolytic disease characterized by erythrocyte destruction, but rather a complex systemic infection in which the host immune response, inflammatory mediators, and endothelial dysfunction play pivotal roles in determining the clinical presentation and the development of complications.

Current evidence highlights the importance of molecular epidemiology in elucidating the biology of different *Babesia* species, their differences in pathogenicity and transmission patterns, as well as the role of subclinical and chronic infections in maintaining the parasite within canine populations. Furthermore, recent research has reshaped our understanding of the pathogenesis of anaemia and the systemic inflammatory response, while advances in diagnostic techniques have enabled more accurate identification of causative agents and improved characterization of epidemiological patterns. Particular attention has been directed toward emerging therapeutic challenges, especially the increasing recognition of treatment failures and antiprotozoal resistance. These findings further underscore the complexity of canine babesiosis and the need to integrate parasitological, molecular, and clinical knowledge into a modern approach to the diagnosis, treatment, and control of this disease.

Keywords: canine babesiosis; molecular diagnostics; new insights; therapy;

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