

## **First Report of Ehrlichia Chaffeensis and Ehrlichis Canis in Dog Ticks from India Using Nested PCR.**

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**Introduction:** Ehrlichia spp. affect humans and canines causing human monocytic ehrlichiosis; Canine monocytic ehrlichiosis, etc. Anaplasma phagocytophilum is the causative agent of human anaplasmosis formerly called as human granulocytic ehrlichiosis (HGE). Earlier it has been shown that different ticks are responsible for the transmission of these infections. The main objective of this study was to report the presence of these infections in India.

**Materials and methods:** A total of 38 female Rhipicephalus (Boophilus) microplus ticks were collected from different dogs from Bombay district of India and stored at -20°C until further use. Genomic DNA from this ticks was extracted and examined for presence of A. phagocytophilum and four different Ehrlichia spp. namely E. chaffeensis, E. canis, E. ewingii and E. platys by 16S rRNA gene-based Nested PCR and DNA sequencing.

**Results:** The results of Nested PCR were negative for A. phagocytophilum, E. ewingii and E. platys. Three DNA samples showed positive results each for E. chaffeensis and E. canis. The sequencing results correlated with the Nested PCR results.

**Clinical relevance:** PCR has emerged as a boon to the field of molecular biology, because of its reliability and usefulness. This is the first attempt to use PCR technique for detection of tick-borne diseases from tick DNA in India. The results show the presence of E. chaffeensis and E. canis infections in tick DNA proposing transmission of two zoonotic important diseases through ticks.

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