DOI: 10.22055/IVJ.2019.197984.2177
DOR: 20.1001.1.17356873.1400.17.2.12.5

Molecular prevalence of *Anaplasma* species in Cow of Mazandaran province

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Received: 18.08.2019 Accepted: 25.12.2019

Abstract

This study aimed to determinate the variety of *Anaplasma* species among cows of Mazandaran province. For this purpose, 105 blood samples randomly collected via the jugular vein from different parts of Mazandaran province. The extracted DNA from blood cells was amplified by *Anaplasma*-all primers, which amplify an approximately 1468bp DNA fragment from a region of the 16S rRNA gene from various members of the genus *Anaplasma*. 29 (27.6%) out of 105 cow blood samples were *Anaplasma* spp. positive by first PCR and nested PCR. All cow positive samples were analysed for the presence of *A. phagocytophilum, A.bovis*, and *A.centrale (Amori Strain)* and as a result, 22 of blood samples (21%) for *A.phagocytophilum*, 12 (11.4%) for *A.bovis* and 1(1%) for *A.centrale* were positive. The extracted DNA from positive *Anaplasma spp* samples were amplified by *Anaplasma marginale* specific primers, which amplify an approximately 866bp DNA fragment from a region of the *msp4* gene. Out of 105, blood samples, Five (4.8%) were positive for *Anaplasma marginale*. This study is the first molecular detection of *Anaplasma* species from cows in Mazandaran province. The results show that there is a significant difference between the percentage of infection of the cow with *Anaplasma phagocytophilum*, in different seasons of the year and the livestock type. Also, the percentage of infection with *Anaplasma bovis*, among the variables studied; there is a significant difference between the seasons of the year and the type of livestock.

Key words: Molecular Prevalence, *Anaplasma* species, Cow, Mazandaran

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