

عنوان مقاله:

An investigation of the concurrency of anti-Neospora antibody and parasitemia in water buffalo (*Bubalus bubalis*) in the northwest of Iran

محل انتشار:

گفتمان پژوهش دامپزشکی، دوره 10، شماره 1 (سال: 1398)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Neospora caninum is an obligate intracellular parasite causing abortion and reproductive failure in ruminants. Here, the seroprevalence of *Neospora* DNA and anti-*Neospora* antibodies and the correlation between the DNA and the antibody using polymerase chain reaction (PCR) and a new developed whole cell-based enzyme-linked immunosorbent assay (ELISA) in water buffalo (*Bubalus bubalis*) were investigated. To determine the level of anti-*Neospora* antibody, 83 serum samples were collected from buffaloes in the northwest of Iran. Plates were coated with 2×10^6 whole *Neospora* tachyzoites and the anti-*Neospora* antibody level was determined by calculating the ratio of sample/positive control (S/P) optical densities (ODs) in the ELISA. All samples with the ration of ≥ 0.50 or above were accounted as positive. To confirm the presence of *Neospora* DNA, the serum samples were directly subjected to PCR and nested PCR for detection of *Neospora* NC5 gene without the DNA isolation process. A total number of 83 buffalo serum samples were examined for the presence of anti-N. caninum immunoglobulin G and *Neospora* DNA. All samples with the S/P ratio of ≥ 0.50 or above (16 samples, 19.27%) were also positive for *Neospora* DNA. All samples with OD less than 0.50 (34 samples, 40.96%) were negative for *Neospora* DNA. However, 33 samples with the S/P ratio of bellow 0.50 (39.75%) showed a significant level of antibody. A 100% correlation was observed between high levels of the anti-*Neospora* antibody and *Neospora* DNA in the serum of water buffalo, and the whole N. caninum tachyzoites have the potency to be used as antigens for detection of the parasite in ELISA.

کلمات کلیدی:

Antibody, ELISA, *Neospora caninum*, Polymerase chain reaction, Water buffalo

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