PREVENTIVE MEASURES IN SMALL RUMINANT FARMS SUSPECTED OF PARATUBERCULOSIS

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Serra da Estrela sheep are the most important local breed milk producer in Portugal and its economic exploitation is of great importance in the economy of the central region of the country.

Direct and indirect economic losses associated with Paratuberculosis caused by *Mycobacterium avium* subsp. *paratuberculosis* (MAP) justify exhaustive studies of this disease, as well as the establishment of preventive measures.

An epidemiological survey was conducted on 13 sheep herds, with clinical suspicion of paratuberculosis, with the main purpose of identification of the flock's carriers of the disease and, subsequently, characterize and identify the main risk factors and implement preventive measures.

Several diagnosis' methods were tested, including Enzyme Linked Immunosorbent Assay (ELISA), Agar Gel Immunodiffusion (AGID), histopatology, immunohistochemistry, Polimerase Chain Reaction (PCR) and bacteriological culture.

2589 blood samples were submitted to ELISA, revealing 235 positive samples (9.1%) and 45 showing doubtful results (1.7%). The same samples (2589) were submitted to AGID, showing 30 positive results (1.16%). Necropsies were performed in 43 animals and submitted to histopathological diagnosis, considering the presence of at least one of the disease characteristic microscopic lesions, we classified 26 (60.5%) animals as compatible with Paratuberculosis. In Ziehl-Neelsen method, alcohol-acid-resistant bacteria were observed in 20 animals (46.5%). In immunohistochemical method, also 20 animals (46.5%) revealed the presence of MAP. The PCR analysis of tissue samples collected at necropsies, revealed 35 positive animals (81.4%). So, all the diagnostic tests applied, showed lower sensitivity than the PCR technique of the tissue samples.

The prevalence of the disease in the studied herds was high, justifying the urgent implementation of several preventive measures, such frequent diagnostic surveys to identify the carriers, controlling the origin of the animals, implementing a system that allows the vigilance of the symptoms shown by animals, among other.