

TITLE

Mycobacterium avium subspecies *paratuberculosis* in samples from patients with and without inflammatory bowel diseases: a systematic review

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SUMMARY

Paratuberculosis, a chronic contagious disease of the gastrointestinal tract, affects domestic and wild ruminants and has as its etiological agent the Gram-positive bacillus *Mycobacterium avium* subspecies *paratuberculosis* (MAP). Characterized by intermittent diarrhea, decreased milk production, dehydration and progressive weight loss. MAP presents resistance to environmental factors, water pasteurization and disinfection processes, with water and food being the transmission vehicles of the agent. The concerns about this bacterium with respect to human health come from its isolation in patients with Crohn's disease (CD) and other inflammatory bowel diseases and the similarity between the clinical and histopathological processes of the patient with CD and the animal with Paratuberculosis. CD, a chronic inflammatory bowel disease of multifactorial etiology that has not yet completely enlightened has similarities with paratuberculosis. Given the characteristics of the agent and its transmission to humans through water and food, it becomes relevant in the context of public health and, therefore, the present study was aimed at MAP amongst patients with and without inflammatory bowel diseases in order to enlight the epidemiological situation of the bacterium among human patients. This study is part of the "OneHealth " initiative that encourages the integrated study of human, animal and environmental health. A survey of articles was carried out, until October 2018, on the data bases Scopus, Pubmed, Agris, Science Direct, referring to the detection of agent, with no restrictions on the date of the searches. The keywords used were: "paratuberculosis", "*Mycobacterium avium* subspecies *paratuberculosis*", "Detection", "human". There were found 47 studies performed in 13 countries, being the major part related to the detection of the agent in European countries, employing molecular techniques. The presence of the agent, amongst patients with CD, Idiopathic Ulcerative Colitis (ICU), optic neuromyelitis, multiple sclerosis, and clinically control patients were performed by serological, histological, microbiological and molecular techniques . There is no evidence of causality associated with MAP referred to above described disease. Despite this, there is evidence that dairy products and contaminated water with MAP pose a risk to public health, and their presence reported in these studies is a relevant finding.

Key words: Crohn's disease, inflammatory bowel disease, Paratuberculosis detection

Development Agency: CNPq, FAPEMIG, CAPES