ABSTRACT
The veterinary and medical perspectives as to the zoonic potential of *Mycobacterium avium* subspecies *paratuberculosis* are on a collision course.

INTRODUCTION
There has been a long simmering controversy between the worlds of medicine and veterinary sciences as to whether *Mycobacterium avium* subspecies *paratuberculosis* (Map) and related genomic variants constitute a threat to the public welfare.

The theoretical bridge linking the two worlds is the failure of pasteurization to completely destroy Map and thus enter the human food chain and evidence that Map has the potential to function as a zoonic pathogen.

HISTORICAL PERSPECTIVE
In 1999, the National Institute of Allergy and Infectious Diseases (NIAID) published its research agenda in which it targeted an infectious cause of Crohn’s disease. The U.S. Congress elected not to fund this initiative.

In 2000, the Centers for Disease Control and Prevention (CDC) issued a working document related to identifying risk factors for human zoonic infections including Crohn’s disease. The project was not funded.

In 2000, the United States Department of Agriculture introduced and advocated the implementation of the U.S. Voluntary Johne’s Disease Herd Program Herd Status Program (Anon., 2000b;2000c; 2000d; 2005). The U.S. Voluntary Johne’s Disease Herd Program Herd Status Program provided voluntary guidelines for herd risk assessment and identified management practices designed to reduce the prevalence of infection. In the same timeframe, revisions to parts 71 and 80 of the Code of Federal Regulation (CFR) were made that restricted the interstate transportation of Map-infected animals except to recognized slaughter establishments (USDA 2000).

In June 2001, the United Kingdom Food Standard Agency issued its report for food standards. The conclusion statement states “There is undoubtedly sufficient cause for concern (relative to Map as being the cause of Crohn’s disease) for further action to be taken urgently to determine what the available data means …… This question can be divided into two areas: What action should be taken to reduce exposure to Map even though the causal link is not established; and what action can be taken to increase the knowledge base so that future decisions may be based upon more information (1).”

In April 2002, USDA-APHIS published the Uniform Program Standards for the Voluntary Bovine Johne’s Disease Control Program and instituted a 5 year Johne’s Disease Prevention Dairy Herd Demonstration Program to develop voluntary guidelines designed to reduce Map herd prevalence.

In 2003, The National Academy of Press published the national Academy of Sciences’ analysis of the Crohn’s disease/Map controversy “There remains insufficient evidence to prove or disprove that *Mycobacterium avium* subsp. *paratuberculosis* is a cause of some or
all cases of Crohn’s disease. … A causal link between Map and Crohn’s disease remains a plausible hypothesis...."

In 2008, the American Academy of Microbiologists published its report on *Mycobacterium avium paratuberculosis*: Infrequent human pathogen or public health threat (2). The executive summary states, "the association of MAP and CD is no longer in question. The critical issue today is not whether MAP is associated with CD, but whether MAP causes CD or is only incidentally present."

By 2008, the majority of Koch’s postulates for causation had been effectively met from data engendered by the medical side of the controversy (3-9).

In 2009, three independent diagnostic laboratories (Michael T. Collins, Saleh A. Naser, and that of the Centers for Disease Control and Prevention) recovered Map from the blood of individuals with Crohn’s disease (10). Naser’s previous recovery of Map from the blood of Crohn’s patients and the breast milk of two postpartum CD females without corresponding recovery from non-Crohn’s diseased individuals had been largely under appreciated.

**CONCLUSION**

From a medical infectious disease point of view, the validation of Naser’s original findings cuts short the argument as to causality. If an individual has certain retroviruses in his or her white blood cells, he or she has HIV infection. If the individual has hepatitis B or C virus in his or her white blood cells, he or she has hepatitis infection. If an individual has Map in his or her white blood cells, he or she has infection with map. If the vast preponderance of individuals with map in their white blood cells has Crohn’s disease or irritable bowel syndrome, the critical element of Koch’s postulates for causation has been met.

The Rio Declaration Relative to Food Safety states, “Where there are threats of irreversible damage, lack of full scientific certainty shall not be used as reason to postpone cost-effective measures to prevent environmental degradation.”

**REFERENCES**


