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Detection of Mycobacterium avium subspecies paratuberculosis in surgical pathology blocks from patients with Crohn's disease in China

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Abstract

AIM: To determine whether *MAP* can be detected in archival paraffin embedded full thickness samples of intestinal tissue from patients in China with Crohn's disease (CD), ulcerative colitis (UC), and in control subjects (NIBD) having surgery for bowel cancer.

METHODS: Optimized procedures for the removal of paraffin, recovery of tissue and access to *MAP* DNA, followed by *MAP*-specific nested IS900 PCR. Confirmation of specific amplification by Southern blotting and DNA sequencing.

RESULTS: IS900 PCR positive tests identified *MAP* in 9 (69%) of 13 CD, 1 of 3 UC and 2 (14%) of 14 NIBD in the presence of correctly reporting positive and negative sample and reagent control reactions. DNA sequence analysis of the 298 bp IS900 PCR amplification product from *MAP* in 2 Chinese CD patients demonstrated 99% homology with the GenBank IS900 sequence accession number X16293.

CONCLUSION: Although larger numbers of Chinese samples need to be studied, these initial results are consistent with an exposure of human populations in China to *MAP*, and an involvement of this pathogen in chronic inflammation of the intestine of the Crohn's disease type. The results are in agreement with similar positive studies reported from China, from Western Europe and elsewhere.

Key words: Crohn disease; *Mycobacterium avium*; Paratuberculosis; Pathology, surgical; Colitis, ulcerative; Polymerase chain reaction

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