Correspondence

Anonymous survey of blood donors by polymerase chain reaction for Tropheryma whippelii

Sir,

The introduction of polymerase chain reaction (PCR)-based testing for Tropheryma whippelii, the causative organism of Whipple’s disease and its recent cultivation in vitro\(^1\) has led to a resurgence of interest in this enigmatic disorder. Using PCR, we recently reported a series of patients with Whipple’s disease and highly atypical presentations, in whom the absence of gastro-intestinal involvement was striking.\(^2\) With greater awareness of Whipple’s disease and its protean manifestations, physicians are considering the possibility of Whipple’s in a widening range of clinical situations. The use of PCR in this context has helped delineate patients with Whipple’s disease in whom the traditional histological hallmark of this disorder, periodic-acid-Schiff (PAS)-positive macrophages are absent.\(^3,4\) The presence of PAS-positive macrophages is not specific for Whipple’s, and the increasing use of PCR brings into question traditional reliance on the demonstration of PAS positivity as a diagnostic marker. The interpretation of a positive result in such situations is, in part, dependent on the background prevalence of positivity in the population from which the patient derives. In view of the increasing number of referrals for PCR in patients with suspected Whipple’s disease, we have sought to define such background prevalence using healthy blood donors.

We performed PCR analysis on EDTA blood samples obtained anonymously following informed consent from 174 blood donors. Ethical approval for the study was provided by the local research ethics committee of the Leeds Teaching Hospitals NHS Trust. PCR analysis was performed according to a standard protocol using two sets of primers (1st set: W3FE, W2RB; 2nd set: W3AF, W4AR\(^4\) and appropriate positive and negative controls. The reported sensitivity of the primers are as follows: 96.6% for W3AF, W4AR and 59% for W3FE, W2 RB.\(^4\) Of the 174 samples, one was PCR-positive (prevalence 0.57%, 95% confidence limits 0.01–3.16%) for T. whippelii using both sets of primers. This result gives some reassurance that a positive result in appropriate clinical circumstances is unlikely to be due to a high background prevalence of past (or current) infection with T. whippelii. Although this relatively small survey does not allow any reliable estimates to be made of the prevalence of the disease it raises the possibility that exposure to the Whipple’s bacillus maybe more widespread than hitherto believed, given its presence in sewage samples.\(^5\) The way is now open for more detailed epidemiological studies of the disease as well as the study of the possible role of Tropheryma whippelii in unexplained granulomatous diseases such as sarcoidosis, common variable immunodeficiency and idiopathic granulomatous hepatitis.

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References


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