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10 of 16

Date : 2011-07-25

ILL NO. : 8643937 TGO : 674601

Service type : Copy Service Level : Core

Call no. : held

Expiry Date : 05/08/2011

Author : Pearson, A. D.; Great Britain. Public Health Laboratory Service.

Title : Campylobacter III

Subtitle : proceedings of the third International Workshop on Campylobacter Infections, Ottawa, 7-10 July 1985

Publisher : Public Health Laboratory Service

Place of Publication : London

Date of Publication : 1985.

Pagination : 188-89

Author of Chapter/Article/Paper : Marshall BJ, Whisson M, Francis G, McGeachie DB

Title of Chapter/Article/Paper : Correlation between symptoms of dyspepsia and Campylobacter pyloridis serology in Western Australian blood donors

ISBN : 0901144177

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Abstract no. 114

Correlation between symptoms of dyspepsia and *Campylobacter pyloridis* serology in Western Australian blood donors

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INTRODUCTION: *Campylobacter pyloridis* (CP) associated gastritis is common in patients with dyspepsia and also affects healthy people. If the bacterium caused dyspeptic disease other than peptic ulceration, we postulated that "healthy" blood donors with serological evidence of infection would be more likely to suffer from dyspepsia.

METHOD: A passive haemagglutination test for CP was devised using a heat-treated sonicate of the organism as the antigen on CrCl₃ tanned group O human red cells. When evaluated with sera from biopsy proven CP positive and negative gastroscopy patients, the sensitivity of the test was 80% and the false positive rate was less than 5% if a titre greater than 1:80 was taken as indicative of CP infection. Titres fell when sera were treated with 2-mercaptoethanol, indicating that the antibody was an IgM. The test was specific for CP; no agglutination occurred when CP positive sera were tested against cells prepared in an identical manner using *C. jejuni* as the antigen.

Sera were obtained from 700 blood donors, 300 of whom filled out a questionnaire giving details of gastrointestinal symptoms:

1. Have you had abdominal pain in the last month?
2. Have you taken antacid in the past week?
3. Have you had a barium-meal, a gastroscopy, a gall bladder X-ray, a hiatus hernia?

Donors who gave at least one positive response to the questionnaire (symptomatic) were compared with donors who gave all negative responses (asymptomatic).

RESULTS: Dyspeptic symptoms correlated positively with the presence of CP antibodies, even though persons with active peptic ulcer disease or who take cimetidine are excluded from donating blood in Western Australia (Table 1).

The percentage of donors with elevated antibody titres was the same throughout Australia: Perth, Western Australia (400 donors), 20%; Sydney, New South Wales (200 donors), 20%; Coff's Harbour, New South Wales (121 donors), 21%. This result was surprising because, in a recent study, peptic ulcer disease was apparently more common in New South Wales than in Western Australia.

Table 1 Association between dyspeptic symptoms and *C. pyloridis* serology

	CP positive serology	CP negative serology	Total
No symptoms	27	159	186
Symptoms	29	77	106
Total	56	236	292

Chi-squared, 7.0683; P = 0.0079.

Positive serology was more common in older donors: 18-30 years, 9%; 30-49 years, 20%; 50-70 years, 37%. These figures may underestimate the prevalence of CP infection by 20% but they compare well with the known prevalence of antral gastritis in Western countries, i.e. 20% rising to about 50% in middle age.

CONCLUSION: More than 20% of Australian adults have serological evidence of chronic *C. pyloridis* infection. Dyspeptic symptoms are more common in these persons, even when peptic ulceration is not present. In future studies of patients with dyspepsia, *C. pyloridis* seropositive persons should not be included as "normal" controls.

Abstract no. 115

The adaption of motile strains of *Campylobacter pyloridis* to gastric mucus and their association with gastric epithelial intercellular spaces

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Campylobacter pyloridis has been shown to occupy two sites in the human stomach. The first of these sites is the mucus blanket covering the gastric epithelium.

Examination of sections of biopsy specimens by light and electron microscopy revealed the organisms in gastric mucus to have a distinctive spiral or curved