change in alcohol use over time lead to underestimation of an elevated relative risk.[4] However, we found a clear association between level of alcohol use at conscription and risk of subsequent hospitalisation or death with a diagnosis of alcoholism, alcohol psychosis, or alcohol intoxication, with a significant relative risk of 5.71 for consumers of ≥15 g ethanol/day, indicating a stability over time. The results also indicate a cardioprotective effect of alcohol use in relatively young men, in whom myocardial infarction is rare. Possible biological mechanisms include an increase in high density lipoprotein cholesterol, a decrease in platelet coagulability, and a decrease in plasma fibrinogen associated with alcohol intake.[1]

Calculation of the attributable proportions clearly indicated that alcohol consumption had a negative net effect on the subjects' health up to the age of 45. The results support a restrictive alcohol policy and recommendations for little or no alcohol consumption by young men.[5]

Contributors: AR formulated the study hypotheses, was responsible for all phases of the study except the statistical analyses, and wrote the paper. AL was responsible for the statistical analyses and participated in planning and designing the study, interpreting the results, and editing the paper. AR is guarantor for the paper.

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Competing interests: None declared.

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Helicobacter pylori and childhood recurrent abdominal pain: community based case-control study

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Recurrent abdominal pain (at least three discrete episodes of abdominal pain over a period of three or more months, and of sufficient severity to interrupt normal activities) is a common childhood complaint. We set out to determine the association, if any, between *Helicobacter pylori* infection and childhood recurrent abdominal pain.

Participants, methods, and results

Cases and controls were drawn consecutively from the practice populations of six primary care paediatricians in Toronto. (Convenience sampling was used to select paediatricians; they were chosen because of their interest in the study.) Cases were children aged 5-15 years presenting with recurrent abdominal pain; controls were healthy children undergoing a routine check-up or vaccination. Excluded were children with concurrent disease, suspected organic disease, aged under five years, or who had used bismuth in the previous month. All families approached consented to participate.

Serum IgG antibodies to *H pylori* were measured by using a flow microsphere immunofluorescent assay (FMIA) and a commercial immunoassay kit (Bio-Rad Laboratories, Hercules, CA). The FMIA method has been validated in children (100% sensitivity, 97% specificity) against a gold standard of culture and histology.[1] Infection was also diagnosed by using a ^{13}C-urea breath test (99% sensitivity, 98% specificity).[2] A standardised questionnaire was used to gather social, demographic, and clinical information on each participant.

One hundred children with recurrent abdominal pain and 100 healthy controls participated in the study. The groups did not differ in age, height, weight, history of colic, previous admissions to hospital, seasonal allergies, or antibiotic use in the previous month (table). The two groups were also similar with respect to socioeconomic status, country of birth of the parents, number of siblings, smokers in the home, household pets, and family history of recurrent abdominal pain, peptic ulcer, and migraine. Children with recurrent abdominal pain, however, were more likely to be girls, to have symptoms of chronic headache or chronic limb pain, and to have more frequent school absences than control children.

Results of serology were available for 174 children (87%). Only five had positive results (3/93 cases *v* 2/81 controls). Breath test results were available for 193 children (97%). Nine were positive (4/97 (4%) cases *v* 5/96 (5%) controls; crude odds ratio 0.78 (95% confidence interval 0.20 to 3.01); odds ratio adjusted by logistic regression 0.65 (0.08 to 2.56)).

Comment

This community based case-control study found no association between *H pylori* infection and recurrent abdominal pain in childhood. Strengths of the study included the primary care setting, the use of incident cases of recurrent abdominal pain, and the use of healthy children as controls. Information bias was minimised by using a standardised questionnaire, with the research nurse blind to the serology and breath test results. *H pylori* infection was measured by two

Comparison of children with recurrent abdominal pain (cases) and healthy children (controls) on social, demographic, and clinical factors. Values are numbers unless otherwise specified

Variable	Cases (n=100)	Controls (n=100)	P value
Mean (SD) age (years)	9 (2.7)	10 (3.2)	0.09
Mean (SD) height (cm)	136 (18.1)	140 (19.1)	0.15
Mean (SD) weight (kg)	35 (14.4)	38 (15.9)	0.18
Median (interquartile range) No of siblings	1 (1-2)	1 (1-2)	0.10
Median (interquartile range) No of school absences/year	8 (4-14)	5 (3-9)	<0.01
No of girls	63	43	0.01
Maternal education <12 years	26	29	0.64
Country of birth of mother (high risk)*	9	13	0.38
Country of birth of father (high risk)*	13	14	0.86
History of colic	39	33	0.38
Chronic headache	50	18	<0.01
Chronic limb pain	14	1	<0.01
Seasonal allergies	22	25	0.62
Previous admission to hospital	38	29	0.18
Antibiotic use in previous month	19	12	0.17
Smoker in home (either or both parents)	21	29	0.21
Pets in the home (dog/cat)	38	42	0.56
Family history of recurrent abdominal pain	28	25	0.60
Family history of peptic ulcer	11	13	0.68
Family history of migraine	39	28	0.10

*Published seroprevalence data were used to divide country of birth into high risk countries (those in South America, south east Asia, eastern Europe, and Africa) and low risk countries (those in North America and western Europe).

independent serology tests and a urea breath test. As the families involved were of a high socioeconomic status (which could explain the low prevalence of infection among control children), the findings should be generalised with caution.

One hospital based case-control study found that *H pylori* infection could be a risk factor for recurrent abdominal pain.[3] The case children, however, had a higher prevalence of organic disease than in previous reports. Also, the control group included children with concurrent gastrointestinal disease. Other community based case-control studies have found no association between *H pylori* infection and recurrent abdominal pain.[4 5]

On the basis of our findings and other published evidence, *H pylori* is not a causal factor for childhood recurrent abdominal pain. Therefore, primary care doctors should not routinely investigate for *H pylori* infection in children who present with classic symptoms of recurrent abdominal pain.

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Correction

Ethnic and sex differences in selection for admission to Nottingham University Medical School

The wrong table was published for this paper by James and Driver (7 August 1999, pp 351-2). The correct table is published below. The results in the text of the paper, as well as the conclusions, remain unchanged.

Decision by ethnic group and sex. Values are numbers of applicants (percentages of each decision category; percentages of group)

	Ethnic group				Sex			
Decision category	White	Non-white*	Total	P value of white *v* non-white	Male	Female	Total	P value of male *v* female
Total No of applicants	1954 (76.8)	591 (23.2)	2545†		1279 (47.3)	1422 (52.7)	2701	
Rejection at:								
Academic stage	400 (69.4; 20.5)	176 (30.6; 29.8)	576 (22.6)	<0.0001	346 (55.6; 27.1)	276 (44.4; 19.4)	622 (23.0)	<0.0001
Questionnaire stage	826 (73.1; 42.2)	304 (26.9; 51.4)	1130 (44.4)	<0.0005	611 (51.5; 47.8)	576 (48.5; 40.5)	1187 (44.0)	<0.0005
Statement review	341 (87.7; 17.5)	48 (12.3; 8.1)	389 (15.3)	<0.0001	155 (37.4; 12.1)	259 (62.6; 18.2)	414 (15.3)	<0.0005
Interview	163 (83.2; 8.3)	33 (16.8; 5.6)	196 (7.7)	<0.05	76 (36.2; 5.9)	134 (63.8; 9.4)	210 (7.8)	<0.005
Offered a place	224 (88.2; 11.5)	30 (11.8; 5.1)	254 (10.0)	<0.0005	91 (34.0; 7.1)	177 (66.0; 12.5)	268 (9.9)	<0.0005

*Asian (Bangledeshi, Chinese, Indian, Pakistani, other Asian) and black (African, Caribbean, other black).
†Does not include 156 candidates whose ethnic group was not supplied to Universities and Colleges Admission Service.