

Higher Rates of Helicobacter Pylori Infection and Gastric Intestinal Metaplasia in the Asian Population in the United States

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1. Short communication

The rate of Helicobacter pylori (*H. pylori*) infection is higher in minority patients in the United States [1]. Gastric intestinal metaplasia (IM) is associated with *H. pylori* infection and carries an increased risk for gastric cancer over time, in particular for patients from regions of high gastric cancer incidence [2]. We aimed to compare the rates of Helicobacter pylori infection and gastric intestinal metaplasia in Asian vs. non-Hispanic White (hereafter White) patients at our institution.

2. Data and Methods

After Institutional Review Board approval, a retrospective chart review was performed on Asian and White patients who underwent diagnostic EGD with random stomach biopsies (antrum, body, and incisura) performed by the same endoscopist (Yize R. Wang) during the 6-month study period of July 1, 2013 to December 31, 2013. Patients of the other races were excluded from the study. Endoscopy and pathology reports were used to identify the presence of peptic ulcer disease, *H. pylori* infection, and gastric IM. Other variables of interest included patient age and sex. The Student's t-test, chi-square test, and multivariate logistic regression were used in statistical analysis.

3. Results

Our study sample included 60 Asian patients (35 Korean, 11 Vietnamese, 10 Chinese, and 4 other Asian) and 67 White patients (Table 1). Compared with White patients, Asian patients were older (mean age [standard deviation]: Asian 56.5 [15.4], White 49.6 [17.1], $p < 0.05$) and similar in percentage of female (Asian 65.0%, White 68.7%). The presence of peptic ulcer disease was similar between Asian and White patients (Asian 13.3%, White 10.4%). The rates of *H. pylori* infection and gastric IM were higher in Asian patients compared to White patients (*H. pylori* infection: Asian 20.0%, White 6.0%, $p < 0.05$; gastric IM: Asian 40.0%, White 13.4%, $p < 0.001$) (Figures 1 and 2).

Multivariate logistic regression controlling for patient age and sex confirmed Asian patients' higher risks of *H. pylori* infection (odds ratio 3.96, 95% confidence interval 1.17-13.4) and gastric IM (odds ratio 3.93, 95% confidence interval 1.62-9.52).

Table 1. Asian and White patient characteristics.

	Asain	White
N	60	67
Age (SD)	56.5 (15.4)	49.6 (17.7)*
Female, %	65.0	68.7
Peptic Ulcer, %	13.3	10.4

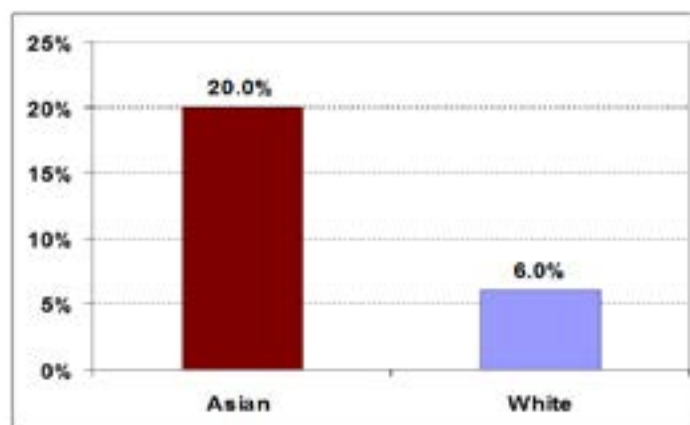


Figure 1. Differences in H pylori infection rate ($p < 0.05$).

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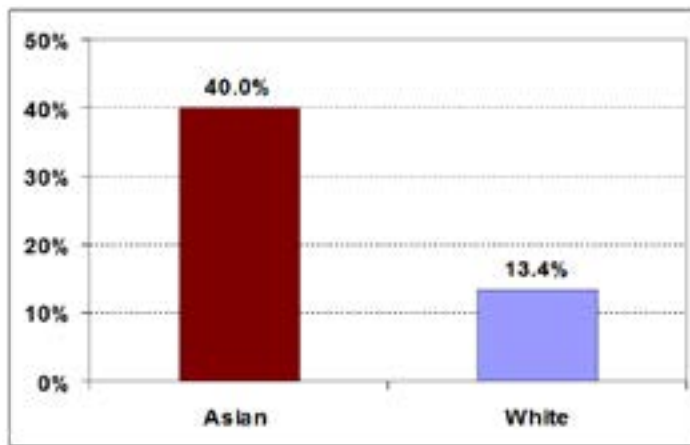


Figure 2. Differences in gastric intestinal metaplasia ($p < 0.001$).

4. Conclusions

The rates of *H. pylori* infection and gastric IM in Asian patients were similarly four times as high as those in White patients, suggestive of the role of (prior or active) *H. pylori* infection in gastric IM. Interestingly, both the rate of *H. pylori* infection and the rate of gastric intestinal metaplasia were similarly four times higher in Asian patients compared to White patients, indicative of the role of *H. pylori* infection in gastric intestinal metaplasia pathogenesis.

Our study is limited by the retrospective study design, with unknown immigrant status and history of *H. pylori* infection. Although most of the Asian patients in our study are likely immigrants to the United States, we could not ascertain what proportion of White patients are immigrants. Secondly, we do not have long-term follow up on gastric dysplasia and cancer risks associated with gastric intestinal metaplasia in these patients, due to the cross-sectional study nature. Future study to follow these patients over time will shed light on the long-term risks of gastric dysplasia associated with gastric intestinal metaplasia and help assess the utility of surveillance upper endoscopy over time [3].

References

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