Background

Thirty years after its discovery, *Helicobacter pylori* remains the world's most common infectious agent, with an estimated prevalence ranging from less than 5% in Northern European children to more than 80% in certain underprivileged populations in Asia, Africa, and Latin America. The Human Immunodeficiency Virus (HIV), also known for 30 years, is the etiologic agent of the acquired immunodeficiency syndrome (AIDS); its prevalence ranges from more than 20% in some South African countries to less than 0.5% in most European and Middle Eastern countries.

The risk factors for the two infections are substantially different: *H. pylori* infection, transmitted by oro-oral or oro-fecal routes, is associated with low socioeconomic conditions and crowding. HIV is transmitted through sexual intercourse, contact with infected body fluids, particularly blood, and transplacentally.

If the host responses to the two infections were completely independent of each other, in any given epidemiologic milieu the prevalence of *H. pylori* infection in HIV-infected patients should be identical to that of non HIV-infected persons sharing a similar socioeconomic background.

Yet, some studies from various parts of the world have detected a higher prevalence of *H. pylori* infection in HIV-infected patients should be identical to that of non HIV-infected persons sharing a similar socioeconomic background. Interestingly, the spectrum of gastric pathology in these two groups of patients has not been systematically addressed.

Aims

This study was designed to compare the prevalence of the most common gastric conditions in a group of HIV-positive subjects and in a large cohort of uninfected age-group matched controls.

Methods

We used the Miraca Life Sciences database to extract histopathologic, demographic and clinical information from all patients with gastric biopsies obtained between 1/2008 and 12/2012.

The prevalence of the most common gastric histopathologic diagnoses, evaluated according to the updated Sydney System (normal mucosa, *H. pylori* gastritis, chronic inactive gastritis, CIG; reactive gastropathy, RG; intestinal metaplasia, IM) was then compared between patients designated as HIV(+) and presumably HIV(-) subjects within the same age range.

Results

There were 186 unique HIV(+) patients (median age 49 years; range 24 to 83; 73.1% M) and 681,582 presumably HIV(-) subjects in the same age group (median age 58 years; range 24 to 83, 38.1% M).

HIV(+) patients were younger (*p* < .0001) and more likely to be male (OR 3.68 95%CI 2.71 – 4.98; *p* < .0001).

Study Highlights

- In most previous studies, the prevalence of *H. pylori* infection in HIV(+) patients was either similar to or lower than that of the population from which the sample was drawn.
- This has led to the speculation that an intact CD4 population is needed for *H. pylori* to effectively colonize the human stomach.
- Our results, based on the highly sensitive and specific immunohistochemical demonstration of organisms in the stomach, rather than on indirect proofs of infection (as in serology or the urea breath test), suggest that HIV infection does not significantly affect gastric mucosal responses.
- Our study may have underestimated the number of HIV(+) patients because of underreporting.

References


Figure 1 – In some patients with HIV/AIDS *H. pylori* organisms are extremely numerous and line the entire surface of the gastric epithelium.

Figure 2 – The prevalence of *H. pylori* infection was 14.0% in HIV(+) and 10.0% in HIV(-) patients. Odds Ratios and significance are indicated above the bars.

The prevalence of CIG (6.7% versus 5.9%), intestinal metaplasia (4.3% versus 4.0%), and reactive gastropathy (19.4% versus 21.1%) were essentially similar in the two groups.

Fundic gland polyps were almost half as common in HIV(+) (4.3%) as in HIV(-) patients (8.0%), but the difference failed to attain statistical significance.