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Are HIV-Infected Patients from Low Socioeconomic Conditions at Risk of Gastritis due to Helicobacter Pylori

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Abstract

Background: This study conducted in a mining town in Matebeleland South Zimbabwe evaluated the prevalence of *H. pylori* infection and the presence of gastritis in HIV-infected patients coming from a low socioeconomic background.

Methods: Blood samples were collected from 110 patients, who came to healthy centres complaining of gastritis. *H. pylori* status and HIV status were serologically screened on these samples.

Results: The prevalence of H. pylori infection was significantly lowers ($p < 0.001$) in HIV-infected (37.2% males and 30% females) than in uninfected (75.8% males and 70% females) for patients. There were no significant differences between *H. pylori* status and gender. Ante retroviral treatment, Viral Load and CD4 assessments were not done on this group of patients.

Conclusion: We demonstrated that the prevalence of *H. pylori* was significantly lower in HIV-positive patients compared with HIV-negative ones. However, gastritis was frequently observed in the HIV-positive patients as it was their major reason for coming to the clinics.

Abbreviations: CMV: Cyto Megalo Virus; GI: Gastro Intestinal; HIV: Human Immunodeficiency Virus; AIDS: Acquired Immuno Deficiency Syndrome

Introduction

It is well known that the immune deficiencies caused by HIV give rise to many different gastrointestinal opportunistic infections, such as cytomegalovirus (CMV) infection and fungal esophagitis [1]. Helicobacter pylorus (*H. pylori*) is a gram negative, spiral, flagellate bacillus that naturally colonizes humans, living in their gastric mucus. And is the major etiologic factor of chronic gastritis and peptic ulcer in the general population. Gastrointestinal (GI) symptoms are frequent among patients infected with human immunodeficiency virus (HIV) and with acquired immunodeficiency syndrome (AIDS) [2] however, the role of *H. pylori* infection in the GI tract mucosa of HIV patients is not well defined [3]. Some studies suggested that interactions between the immune/inflammatory response, gastric physiology and host repair mechanisms play an important role in dictating the disease outcome in response to *H. pylori* infection, suggesting that the host's immune competence might be an important issue in *H. pylori* infection [3].

Data in regard to the prevalence of *H. pylori* infection in HIV-infected population are controversial. *H. pylori* related gastritis has been noted to occur less frequently (that is, in 5 to 59% of cases) in adult patients with the acquired immunodeficiency syndrome (AIDS) [4]. Some reports have shown that the rate of the infection in HIV-positive patients is remarkably low when compared with the general population [4,5]. Conversely, other studies have not found similar results.

Objective

To assess if there is any correlation between positive cases of *H.pylori* reporting to healthy centres in a mining town complaining of gastritis and their HIV status.

Methods and Materials

Blood samples were collected from 110 patients, who came to healthy centres complaining of gastritis. *H. pylori* status and HIV status were serologically screened on these samples. Plain tube blood collection tubes were collected from patients male or female complaining of gastrointestinal infections including those with peptic ulcers and gatsritis. Serum was taken from these samples and serologically screened for *H.pylori* and HIV.

Results

(Tables 1 & 2)

Table 1: *H.pylori* status vs gender.

	Total ppts	*H.pylori* +ve	%	*H.pylori* -ve	%
Males	69	45	45%	14	14%
Females	41	20	20%	21	21%

Table 2: *H.pylori* vs HIV Status.

HIV status total		Gender	*H.pylori* +ve		*H.pylori* -ve	
			Hiv-ve	Hiv+ve	Hiv-ve	Hiv +ve
+ve	-ve					
30	39	Males	75.8%	37.2%	24.2%	68.2%
10	31	Females	30%	70%	70%	30%

Discussion and Conclusion

The prevalence of *H. pylori* infection was significantly lower ($p < 0.001$) in HIV-infected (37.2% males and 30% females) than in uninfected (75.8% males and 70% females) for patients. There were no significant differences between *H. pylori* status and gender. Antiretroviral treatment, Viral Load and CD4 assessments were not done on this group of patients. The results are reflected in (Tables 1 & 2). These results are in agreement with results of studies of Olmos et al. (2004), however, they found that HIV-infected patients with *H. pylori* have a higher mean CD4 count than HIV-infected patients without *H. pylori*, but, in our study we didn't assess any differences in CD4 count between these two groups. Probably, frequent use of antibiotic in HIV-infected patients has a role in eradicating or controlling *H. pylori* infection but cannot completely eradicate *H. pylori* from gastric of these patients. In conclusion, our results showed, by screening *H. pylori* in blood of HIV-infected patients that, prevalence of this bacterium in these patients is lower than in those HIV negative. In fact, this prevalence is similar to prevalence of *H. pylori* in population, but why this bacterium cannot show gastric symptoms in these patients is not clear and more studies are needed to clarify it.

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