

**Title:** ASSOCIATION OF HELICOBACTER PYLORI AND EPSTEIN-BARR VIRUS CO-INFECTION IN GASTRIC CANCER PATIENTS: A PROSPECTIVE ANALYTICAL STUDY

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**Introduction:** Recent evidence suggests that Epstein Barr virus (EBV) and *H. pylori* co-infection increase the prevalence of gastric cancer in the younger age group and are associated with poor prognosis. Identification of this association has important implications in the management of gastric cancer and also to identify the population at high risk of developing gastric malignancy. The present study aimed to determine the prevalence of *H. pylori* and EBV co-infection in patients with gastric cancer.

**Materials and methods:** It is a single-center prospective analytical study. A total of 182 patients were included. The study group (n=91) included all consecutive patients of age  $\geq 18$  years with gastric cancer. The control group (n=91) included individuals with normal endoscopy findings. Both groups were analyzed for the presence of *H. pylori* and EBV.

Table 1: PREVALENCE OF H.PYLORI, EBV, H.PYLORI AND EBV CO-INFECTION IN GASTRIC CANCER

Results:	INFECTION	GASTRIC CANCER N=91	CONTROLS N=91	P-VALUE*
<ul style="list-style-type: none"> <li>The overall prevalence of <i>H. pylori</i> infection in gastric cancer patients was 70.3%, EBV infection was 63.7 % and <i>H. pylori</i> &amp; EBV co-infection was 51.6 %.</li> </ul>	<i>H. pylori</i> [n(%)]	64 (70.3)	12 (13.1)	<0.00001
	EBV [n(%)]	58 (63.7)	21 (23)	<0.00001
	<i>H. pylori</i> and EBV co-infection [n(%)]	47 (51.6)	12 (13.1)	<0.00001

\* chi-square test

- The *H. pylori* & EBV co-infection in the study and control group was 51.6 % versus 13.1 % (P<0.001).
- The remaining parameters like smoking socioeconomic class, dietary habits, prior gastric surgery, tumor location, histological subtype, stage of the tumor, distant metastasis, and lymph node metastasis did not show any significance.

**Conclusion:** From the above observations, EBV infection appears to be more prevalent in gastric cancer compared to the normal population. Also, most of the gastric cancer patients had co-infection of both *H. pylori* and EBV. The importance of this observation signifies that *H. pylori* eradication alone doesn't help in the prevention of gastric cancer. EBV infection, which augments the damage caused by *H. pylori* requires a specific target therapy. In the future, individuals with a high risk of gastric cancer may be benefited from the targeted drug against the EBV-lytic cycle protein, with the aim of prevention of reactivation of the virus.