

# HELICOBACTER PYLORI INFECTION; IN CASES WITH AND WITH OUT SUBJECTIVE HALITOSIS

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**ABSTRACT... Introduction:** In most individuals H. Pylori is acquired early in the life (before 5 years). H. Pylori infection is more common in the third world countries, where about 90% of adults may be infected. Helicobacter pylori is one of the suspected causes of halitosis in children. **Objectives:** To evaluate the relationship of helicobacter pylori and halitosis. **Patients and Material:** 33 patients with chief complaint of halitosis included in our study. Halitosis was evaluated as a subjective symptom in this study. Careful history was obtained. All patients underwent physical examination in order to rule out sinusitis, otitis, and possible cause of halitosis. 67 patients without halitosis were selected as control group. All patients were aged 4-17 years old. Urea Breath Test was done for all patients. UBT has >95% sensitivity and specificity for diagnosis of H.pylori infection. Chi-square test and Yate's corrected  $\chi^2$  was used to analyzes finding. Epi-info ver 6 were used. **Results:** In the case groups 7 patients had H. pylori infection and 26 patients had not. In the control group 18 patients had H.pylori infection and 49 patients had not halitosis (P=0.53). **Conclusions:** There is no significant differences between case and control group. In this study we did not find relationship between H.pylori infection and halitosis.

**Key words:** Halitosis, Helicobacter Pylori

## INTRODUCTION

Halitosis is a common human condition, whose exact pathophysiological mechanism is unclear<sup>1</sup>. Local and systemic factor may play a role in the above condition<sup>1</sup>. Some author reported that GERD have a strong association with halitosis<sup>2</sup>. In most individual, H. Pylori is acquired early in the life (before 5 years).

H. Pylori infection is more common in the third world countries, where about 90% of adults may be infected.

Helicobacter pylori is one of the suspected causes of halitosis in children. Serin et al reported that halitosis is a frequent, but treatable, symptom of H.pylori infection<sup>3</sup>. H.pylori may produce volatile sulfur as a cause of halitosis<sup>4,5</sup>. The aim of this study was to evaluate the

relationship of H. pylori and halitosis.

## PATIENTS AND METHODS

33 patients with chief complaint of halitosis included in our study. Halitosis was evaluated as a subjective symptom in this study. Careful history was obtained. All patients underwent physical examination in order to rule out sinusitis, otitis, and possible cause of halitosis. 67 patients without halitosis were selected as control group. All patients were aged 4-17 years old. Urea Breath Test was done for all patients. UBT has >95% sensitivity and specificity. Our cases were also evaluated for early satiety, heartburn, anorexia and association of these symptom with helicobacter infection. Chi-square test and Yate's corrected  $\chi^2$  was used to analyze finding. Epi-info ver 6 were used.

## RESULTS

The results of UBT test in cases with and without halitosis was shown in Table-I.

Group	UBT (+)	UBT (-)
With Halitosis (Case)	07	26
Without Halitosis (Control)	18	49

$P = 0.53$

Our cases also evaluated for heart burn( Table-II).

Heart burn	H. Pylori (+)	H. Pylori (-)
Yes	03	01
No	22	05

$P = 0.6$

Belching was seen in 9 cases without H.pylori infection and 2 cases with H.pylori infection. 17 cases without H. pylori infection and 4 cases with H.pylori infection did not show belching ( $P=0.67$ ). Cases with halitosis are also evaluated for family history and H.pylori infection ( $p=0.79$ ) (Table-III).

F.H.X	H. Pylori (-)	H. Pylori (+)
Positive	14	03
Negative	11	02

$P = 0.79$

The result for evaluation for abdominal pain and H.pylori infection was shown in (Table-IV) ( $p=0.27$ ).

## DISCUSSION

In contrast to our study, Chen et al reported that prevalence of H.pylori infection in halitosis subjects was significantly higher than that in the normal subjects<sup>6</sup>. In a study carried out in Greece, eradication of H. pylori in

Table-IV. Abdominal pain and H. pylori in cases with halitosis.

Abd. Pain	H. Pylori (-)	H. Pylori (+)
Yes	17	06
No	08	—

$P=0.27$

patients with functional dyspepsia and halitosis results in sustained resolution of halitosis during long-term follow-up in the majority of cases. This finding supports the existence of a link between H. pylori infection and halitosis and suggests that H. pylori eradication might be considered in patients with halitosis<sup>7</sup>. Adler et al. showed an association between H.pylori and burning and halitosis<sup>8</sup>. Tiomny et al. reported possible relationship between H. pylori and halitosis<sup>9</sup>. In contrast to several studies which linked halitosis with H.pylori infection (Tiomny et al, 1992; leardi et al;1998, Serin et al;2003, Adler et al;2005) Moshkowitz et al study does not confirm a relation between gastric H.pylori infection and halitosis. Halitosis was significantly associated with the occurrence and severity of heart burn, regurgitation, sour taste, belching, and burburigmus<sup>10</sup>. Moshkowitz et al study was used subjective criteria for halitosis and this may results difference with other study. We used in our study UBT, but in some studies, other authors used serum assay. The most important limitation of serologic test is the inability to distinguish active from passive infection<sup>11</sup>. An important limitation in our study that this study was a subjective study. Some of other study was used an objective method to detect halitosis. Some of authors used endocopy to detect H.pylori. We used UBT in the current study. We recommend another study in well healthy children without chief compliant of halitosis in order to assessment of objective halitosis.

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## PREVIOUS RELATED STUDIES

- Khaskheli QA, Kharal SA, Syed A, Rizwan QM, Durrani MA. Serodiagnosis of helicobacter pylori infection. Professional Med J Jun 2002; 9(2):145-153.