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Research Article

**PREVELANCE OF INFECTION IN DAIBETIC CHILDREN
WITH H. PYLORI BACTERIA AND RISK FACTORS OF H.
PYLORI IN DIABETIC CHILDREN**Dr. Tenveer Ahmed¹, Dr. Sibghat Ullah Khan², Dr Bakht Zia³¹MO Allama Iqbal Memorial Hospital, Sialkot²Post Graduate Resident, D.A Anesthesia Department Mayo hospital, Lahore.³WMO in Bilal Hospital, Rawalpindi**Abstract:****Objective:** To evaluate the infection in diabetes mellitus cases with *Helicobacter pylori*.**Introduction:** It has been reported that the *H. pylori* infection prevalence high in patients of diabetes mellitus.**Place and Duration:** In the pediatric department of Services Hospital, Lahore for the period of 6 months from 1st of July 2016 to 31st of December 2016 under the supervision of ethical committee.**Patients and methods:** This case-control study was in the pediatric department of Services Hospital, Lahore for the period of 6 months from 1st of July 2016 to 31st of December 2016 Diabetes mellitus (twice fasting blood glucose > 126 mg / dL, blood glucose > 200 mg / dL or diabetic clinical indication) was included in this study for 2 months, regardless of the duration of the illness without antibiotic therapy history. Breath urea test (UBT) was performed with ISOMAX 2000, manufactured by Canada. Forty-eight cases (M: 28, F: 21) were tested for urea breathing to detect *H. pylori* infection. In addition, 100 healthy controls were selected. The urea breath test was also performed at all of the children's controls. Chi-square test was used for analysis with SPSS version 10.0.**Results:** Forty eight cases with a mean age of work of 8.1 ± 2.6 (range 3.5-15) were included. Positive UBT test was performed in 14 (28.6%) and positive UBT in 30 (27.8%) of 108 control groups (P value > 0.05).**Conclusion:** Diabetic children are not at risk for high *H. pylori* infection, but a study with a large sample size is needed.**Keywords:** *Helicobacter pylori*, Diabetes Mellitus, Breath Urea test.**Corresponding author:**

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INTRODUCTION:

One of the most important pathogens responsible for infection in the gastrointestinal tract is *H. Pylori*. It is now in the world is the most common chronic infections. *H. pylori* is a spiral-shaped, gram-negative pathogen that colonizes the epithelium of stomach specifically and causes peptic ulcer, chronic gastritis or other intestinal and extraintestinal findings. The relationship between *H. pylori* and diabetes mellitus (DM) is arguable. Type I Diabetes patients appears to be more susceptible to infection than healthy controls. According to some studies, patients with type I5-7 or type II DM have high *H. pylori* infection. On the contrary, Anastasios *et al.* *H. pylori* infection has not been associated with DM since in the prevalence of *H. pylori* infection there is no difference among diabetics. There are some reports that the elimination of *H. pylori* may trigger the onset of type I diabetes. The purpose of this study is to evaluate the frequency of *Helicobacter pylori* infection in diabetes mellitus cases.

PATIENTS AND METHODS:

This case-control study was conducted in pediatric department of Services Hospital, Lahore for the period of 6 months from 1st of July 2016 to 31st of December 2016. The work has been approved by the local ethics committee. The informed consent was obtained both from the cases and from the parents / parents of the inspectors. Diabetes mellitus cases were included in this study, regardless of the duration of the disease and the younger than 16 years (with two repetitive blood glucose levels > 126 mg / dl, blood glucose > 200 mg / dl clinical presentation of diabetes). Controls were selected for healthy children from hospital staff who visited the hospital for routine control and were under 16 years of age. Children (both cases and controls) treated with two other disease or antibiotic narratives, proton pump inhibitors, H2 receptor blockers, sucralfate, or compounds containing bismuth within the last two months were excluded from the study. The breathing urea test (UBT) was performed with the ISOMAX 2000 made by Canada and at the controls after 8 hours fasting. In this study we think as a cut-off point of 3.5%. Chi-square test was used to analyze Student's t test for qualitative data with qualitative data and SPSS version 10.0 (SPSS Inc, Chicago, IL, USA). Smaller values of P than 0.05 were considered significant.

RESULTS:

Breath tests were performed with urea in 100 controls in 48 cases. In the case group, male-female ratio was 1.29 (male 26, female 22) while in the control group 1.16 (male 56, female 44) (p value 0.6883). The

mean age of the study group was 8.1 ± 2.6 (3.5-15) years, while the mean age of the control group was 7.5 ± 4.6 (range 4.1-15) [$p = 0.3953$]. The mean age at the onset of the disease was 5.6 ± 3.2 years (range 1-12 years), while the mean duration of the disease was 2.5 ± 3.5 years (1 month). 12.2 years). Positive UBT results were obtained in 14 (28.6%) of the 49 patients and 108 (27.8%) of the control group as shown in Table-I. The difference in the positive ratio between the two groups could be ignored (value P 0.9183).

TABLE I: Results of UBT test in control and case groups.

	Control		Cases	
	Male	Female	Male	Female
UBT positive	16	14	8	6
UBT negative	42	36	20	15

DISCUSSION:

The overall specificity and sensitivity of UBT 13C is 93.97% and 96.1%, respectively. This study has shown that the risk of *H. pylori* infection in children suffering from diabetes is not higher than in healthy children. Ariizumi and colleagues¹³ have shown that the incidence of infection with *H. pylori* in adults with diabetes is as high as 53.7%, but not statistically significant compared to controls. This has been confirmed by other studies, but other studies have shown a incidence of *H. pylori* infection greater than 17-20 in diabetic patients. Oldenburg *et al.* (Using anti-*H. pylori* antibodies) showed that the prevalence ratio of infection with *H. pylori* in diabetic cases was higher significantly than in healthy subjects. Marrollo *et al.* Found a higher *H. pylori* prevalence in non-dyspeptic diabetic patients than in dyspeptic non-diabetic patients. Luis *et al.* We observed that there is a relationship between the *H. pylori* infection seroprevalence and the duration of insulin-dependent diabetes mellitus. Toporowska-Kowalska and colleagues studied 198 diabetes cases and found that 24.3% of diabetic cases had UBT positive. HbA1C was significantly higher in patients with *H. pylori* infection. Ogetti *et al.* Have shown that the prevalence of recurrence of *H. pylori* at 12 months after eradication of *H. Pylori* successfully is higher significantly in diabetic patients than in healthy individuals²⁴. Casbarrini *et al.* Showed that the standard regimen in the treatment of *H. pylori* infection may have less efficacy in diabetic patients. Endoscopy is the gold standard for detection and identification of *H. pylori*. UBT was used for diagnosis in this study, serologic testing was used in many other studies and is no longer recommended for diagnosis. A major limitation of serologic testing is the inability of *H. pylori* to differentiate between

active and past infection. In addition, many studies have been done in adults. For this reason, it is very difficult to compare the results of this study with other studies. The sample size of our work is small.

CONCLUSION:

Diabetic children are not at risk for high *H. pylori* infection, but a large sample size is needed along with endoscopy as a diagnostic tool to confirm our findings. This case-control study was in the pediatric department of Services Hospital, Lahore for the period of 6 months from 1st of July 2016 to 31st of December 2016 Diabetes mellitus (twice fasting blood glucose > 126 mg / dL, blood glucose > 200 mg / dL or diabetic clinical indication) was included in this study for 2 months, regardless of the duration of the illness without antibiotic therapy history. Breath urea test (UBT) was performed with ISOMAX 2000, manufactured by Canada. Forty-eight cases (M: 28, F: 21) were tested for urea breathing to detect *H. pylori* infection. In addition, 100 healthy controls were selected. The urea breath test was also performed at all of the children's controls. Chi-square test was used for analysis with SPSS version 21. Forty eight cases with a mean age of work of 8.1 ± 2.6 (range 3.5-15) were included. Positive UBT test was performed in 14 (28.6%) and positive UBT in 30 (27.8%) of 108 control groups (P value > 0.05). Diabetic children are not at risk for high *H. pylori* infection, but a study with a large sample size is needed.

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