Frequency of *Helicobacter pylori* Infection in Uremic Hemodialyzed Patients with Antral Gastritis

W.	Wojciech	Krawczyk ^a
E.	Ewa	Görna ^b
J.	Janusz	Suwata ^c
P.	Piotr	Różyc ^c
L.	Leszek	Pawłowski ^c
A.	Alina	Krzywicka ^c
B.	Bożena	Wieczerza ^c
A.	Arnold	Król ^c

^aResearch Laboratory in Chełm, Institute of Agricultural Medicine, Lublin

^bDepartment of Pathomorphology and ^cDepartment of Internal Medicine, Regional Hospital, Chełm, Poland

Wojciech Krawczyk, MD, PhD, Department of Internal Medicine, Regional Hospital, ul. Szpitalna 53, PL-22-100 Chełm (Poland)

Dear Sir,

Since the observations by Marshall et al. [1], *Helicobacter pylori*, a spiral shaped, gram-negative microorganism, has been linked with the occurrence of gastric diseases, e.g. chronic gastritis, especially of the antral type [2]. Patients with end-stage renal failure have been shown to have an increased incidence of gastroduodenal lesions [3]. Because *H. pylori* urease converts urea to ammonia which provides a high local pH necessary for bacterium survival [2], it has been speculated that a high urea content of the mucus in the stomach in uremic patients might predispose to *H. pylori* infection [4, 5].

The aim of our study was to assess the frequency of *H. pylori* infection in 2 groups of patients with antral gastritis: 21 chronically hemodialyzed uremic patients (9 men and 12 women, age 21-55 years, mean $\pm$ SD 36.8 ± 13.2), and an age-matched control group consisting of 22 patients (10 men and 12 women) with dyspepsia. The studies were performed during routine endoscopic examinations. In both groups histopathological symptoms of antral gastritis were detected, with moderate activity according to Sidney classification [6]. The search for *H. pylori* was carried out with a urease test and was always confirmed by histological examination (modified Giemsa method) [2]. Biopsy specimens were obtained from the antral region of the stomach. All uremic patients were dialyzed three times per week, 5-hour sessions (Gambro AK 10, dialyzers with po-lysulfone membrane). None of the examined patients had ever been treated with colloidal bismuth, and none had received antibiotics during the 2 months before the study. For statistical analysis the χ^2 test was employed.

The characteristics of the examined patients and the results obtained are presented in table 1. *H. pylori* infection was indicated in 61.9% of the hemodialyzed patients and in 63.6% with the control group. The difference was not significant. In all patients with a positive urease

test, histological examination confirmed the presence of *H. pylori*. Our results are similar to the sparse literature data [4, 5, 7-9], and confirm that end-stage renal failure treated with chronic hemodialysis does not seem to affect the possibility of *H. pylori* infection. These results also indicate that the urease test may be useful for the detection of *H. pylori* infection in uremic patients.

Table 1. Characteristics of the examined patients and the results obtained

Hemodialyzed patients Control group

Males 9

Females 12

Age, years (mean $\pm$ SD) 36.8 $\pm$ 13.2

Months on hemodialysis (mean $\pm$ SD) 28 $\pm$ 12.2

Presence of *H. pylori*, number of patients 13 (61.9%)

10 12 34.8 $\pm$ 12.1

14(63.6%)

KARGER

E-Mail karger@karger.ch Fax + 41 61 306 12 34 <http://www.karger.ch>

© 1996 S. Karger AG, Basel 0028-2766/96/0743-0621\$10.00/0

Marshall BJ, Royce H, Aunear DI, Goodwin CS: Original isolation of *Campylobacter pyloridis* from human gastric mucosa. *Microb Lett* 1984;25:83-88.

Tytgat GNJ: *Helicobacter pylori*: Recent developments. *J Gastroenterol* 1994;29(suppl 7): 30-33.

Musola R, Franzin G, Mora R, Manfrini C: Prevalence of gastroduodenal lesions in uremic patients undergoing dialysis and after renal transplantation. *Gastrointest Endosc* 1984;30: 343-346.

Shousha S, Arnaout AH, Abbas SH, Parkins RA: Antral *Helicobacter pylori* in patients with chronic renal failure. *J Clin Pathol* 1990;43: 397-399.

Gladziwa U, Haase G, Handt S, et al: Prevalence of *Helicobacter pylori* in patients with chronic renal failure. *Nephrol Dial Transplant* 1993;8:301-306.

Misiewicz JJ, Tytgat GNJ, Goodwin CS, et al: The Sydney system: A new classification of gastritis. *Rep World Congr Gastroenterol*, Sidney, Aug 1990.

Conz P, Feriani M, Milan M, et al: *Campylobacter pylori* in uremic dialysed patients. *Nephron* 1990;55:442-443.

Conz P, Charamonte S, Ronco C, et al: *Campylobacter pylori* in uremic patients. *Nephron* 1989;53:90.

Davenport A, Ahallcross TM, Cratee JE, et al: Prevalence of *Helicobacter pylori* in patients with end-stage renal failure and renal transplant recipients. *Nephron* 1991;59:597-601.

Nephron 1996;74:621-622

Krawczyk/Górna/Suwaia/Rózyc/ Pawtowski/Krzywicka/Wieczerza/Król