

COMUNICACIONES

The first cases of *Helicobacter pylori* (*Campylobacter pylori*) reported from Costa Rica

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(Rec. 6-III-1990. Acep. 24-IV-1990)

Abstract: Two gastric antrum biopsies of each of 92 consecutive patients undergoing gastroendoscopy were studied. The first biopsy was cultured for *Helicobacter* (*Campylobacter*) *pylori*. The second specimen was fixed and processed for histopathological analysis. The bacteria were isolated from 34 (81 %) of 42 patients with nonspecific chronic gastritis, 19 (90 %) of 21 cases of duodenal or gastric peptic ulcer, and from 3 (23%) of 13 normal patients. The overall frequency of isolation was 62 (67 %) of the 92 cases.

Key words: *Helicobacter pylori*; *Campylobacter pylori*, gastritis, peptic ulcer, gastric cancer.

In 1983, Warren and Marshall isolated a new curved Gram negative bacillus from the gastric mucosa of patients with active chronic gastritis (Marshall 1983, Marshall & Warren 1984). This bacterium was called *Campylobacter pylori* (Marshall & Goodwing 1987) and then *Helicobacter pylori* (Goodwing *et al.* 1989). Its discovery corroborated observations of spiral-shaped bacteria from human gastric mucosa, as reported over the last century (Marshall 1988). Currently, *Helicobacter pylori* is the most important infectious agent associated with nonspecific chronic gastritis and peptic ulcer, as has been shown in developed countries (Marshall 1988, Yardley & Paull 1988). Nevertheless, as Yardley and Paull (1988) pointed out, the information from developing countries is scattered, specially from Latin America.

The aim of this study is to determine the prevalence of *Helicobacter pylori* in a group of patients from Costa Rica.

The study included 92 patients with epigastric complaints referred for upper gastrointestinal endoscopy at Hospital México, San José, Costa Rica. The patients ranged from 19 to 89 years old (mean 50 years; 50 men and 42 women). At least two biopsies were obtained from the antrum of each patient; one was rubbed across the surface of a blood agar plate (BBL) without antibiotics, and incubated in microaerobiosis into an anaerobic jar for five days at 37 °C. The isolated organisms were classified as *Helicobacter pylori* on the basis of their colony morphology, strong reactions to urease, oxidase, catalase, and typical morphology under Gram's staining or in doubtful cases, under negative staining electron microscopy. The same tissue used for bacterial isolation was placed in a 10 % urea solution with 0.2 % of red phenol for a rapid urease test (Ruiz *et al.* 1989). The other biopsies were used for histologic examination with hematoxylin-eosin or Giemsa stained sections and campylobacter-like organisms (CLO) were investigated. Patients

positive with at least two of the three methods were considered positive.

Sixty-two out of 92 (67 %) of the studied patients were infected with *Helicobacter pylori*, including three out of 13 patients with normal gastric mucosa. Forty-two patients had histopathological alterations supporting a diagnosis of nonspecific chronic gastritis (NSCG); in these patients the prevalence of *H. pylori* was 81%. Nevertheless, there were eight more patients with chronic atrophic gastritis complicated with intestinal metaplasia (CAG IM). In seven of them, a large number of bacilli was seen in the stained tissue sections; however, only in three was *H. pylori* cultured. In addition, it was isolated in 14 out of 15 patients with gastric ulcer and in five out of six patients with duodenum peptic ulcer. Furthermore, there were five cases of adenocarcinoma, two of them *Helicobacter* positive. The age distribution of these patients is shown in Table 1.

TABLE 1

Prevalence of *Helicobacter pylori* by age and diagnosis*

Diagnosis	Age (positive / total)						Total
	20-29	30-39	40-49	50-59	60-69	70-79	
Normal	0/2	2/4	0/1	0/2	0	1/3	3/13
NSCG	4/4	7/8	6/8	7/8	7/8	3/4	34/42
CAG IM	1/3	0	0	1/1	1/0	1/3	3/8
GPU	3/3	3/3	3/3	4/4	1/1	0/1	14/15
DPU	0	1/2	3/3	0	1/1	0	5/6
Displasia	0	0	1/1	0	0	0	1/1
GC	0	0	0/1	1/2	0/1	1/1	2/5
Total	8/12	12/17	13/17	13/19	9/12	6/12	62/92

NSCG = nonspecific chronic gastritis, CAG IM = Chronic atrophic gastritis with intestinal metaplasia, GPU and DPU = Gastric or duodenum peptic ulcer, GC = Gastric cancer.

* Includes a 19 year old normal case, negative by *H. pylori* and two cases of GC (one positive, one negative) age range 80-89.

The epidemiology of *Helicobacter pylori* is object of intense research, specially in developed countries, but is not yet understood. The frequency in gastric biopsies ranged from 27 to 64 % (Yardley & Paull 1988) and its prevalence in gastritis and peptic ulcer is *c a.* 70% and 70 to 90 % respectively (Marshall 1988, Taylor *et al.* 1987). In this report the prevalence of *H. pylori*

in gastritis and peptic ulcers is 81 and 90% respectively. These data, at least in gastritis, are slightly higher than those reported from developed countries.

ACKNOWLEDGEMENTS

The authors acknowledge the cooperation of the Staff of the Department of Gastroendoscopy of Hospital México. We also thank Bernal Fernández for his suggestions and improvement of the manuscript. Financial aid was provided by the Research Vice-presidential of the University of Costa Rica (422-88-419) and by CENDEISSS (24-88).

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