Correspondence

Prevalence of lymphoid follicles in *Helicobacter pylori* associated gastritis

We read with great interest the paper by Zaitoun[1] which addressed the detection of lymphoid follicles in *Helicobacter pylori* associated gastritis. Given several points raised by the author, we would briefly like to mention our personal experience of the histological detection of primary and secondary lymphoid aggregates in *H pylori* associated gastritis, including some general comments on mucosal sampling in *H pylori* associated gastric disease.

In an ongoing prospective study, we are evaluating the possibility of increasing the sensitivity of histological characterisation of gastritis by routinely taking samples of the incisura angularis along the lesser curvature in addition to biopsy specimens from the antral and oxyntic mucosa.

In our opinion, in the assessment of *H pylori* infection, the high positive predictive value shown by lymphoid follicles could be regarded as redundant information, as both the bacterium and the follicles clearly coexist within the same biopsy sample. Actually, it would have been more exciting to ascertain, in the absence of histologically detectable *H pylori*, whether the presence of lymphoid follicles could successfully identify patients in whom *H pylori* infection could be confirmed by technical procedures other than histology—for example, PCR and culture.

However, the study by Dr Zaitoun, in which follicles were mainly found in the antral mucosa, provides useful information and enabled us to speculate which site would be the most appropriate for sampling: (1) to achieve accurate staging of *H pylori* associated inflammatory lesions; and (2) to have the greatest chance of detecting mucosa associated lymphoid tissue (MALT) derived primary gastric lymphomas at an early stage.

Consecutive patients (n = 181) with non-ulcer dyspepsia (94 *H pylori* positive and 87 *H pylori* negative) underwent gastric endoscopy. Biopsy specimens, two from each site, were taken from the antral and oxyntic mucosa, and the incisura angularis. Table 1 shows the significant association between the presence of lymphoid follicles in non-oxyntic gastric mucosa and *H pylori* infection and also highlights the higher incidence of lymphoid follicles in samples of the incisura angularis.

These data confirm that (1) lymphoid follicles are part of the histological spectrum of *H pylori* associated gastritis[2 3]; (2) are more characteristic of mucosa of the incisura angularis than of the antrum ($p < 0.000$); and (3) indicate that the incisura angularis is the site of choice for sampling for the early detection of primary gastric lymphomas, which arise more frequently in lymphoid tissue acquired as a result of a pre-existing disorder and characteristically tend to remain restricted to their site of origin.[4]

Table 1 Detection of lymphoid follicles in antral, angular and oxyntic mucosa in histologically confirmed H pylori positive and negative gastritis

	Sample type		
	Antral	*Angular*	*Oxyntic*
H pylori positive gastritis	47 (25%)	67 (37%)	8 (4%)
H pylori negative gastritis	11 (7%)	14 (8%)	4 (2%)
Total	58 (32%)	81 (45%)	11 (6%)

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1 Zaitoun AM. The prevalence of lymphoid follicles in Helicobacter pylori associated gastritis in patients with ulcer and non-ulcer dyspepsia. *J Clin Pathol* 1995;**48**:325–9.
2 Genta RM, Hamner HW, Graham DY. Gastric lymphoid follicles in Helicobacter pylori infection: Frequency distribution and response to triple therapy. *Hum Pathol* 1993;**24**:577–83.
3 Eidt S, Stolte M. Prevalence of lymphoid follicles and aggregates in Helicobacter pylori gastritis in antral and body mucosa. *J Clin Pathol* 1993; **46**:832–5.
4 Isaacson PJ, Spencer J. The biology of low grade MALT lymphomas. *J Clin Pathol* 1995; **48**:395–7.

Dr Zaitoun comments:

The observations by Dr Rugge and his colleagues confirm previous studies[1 2] that lymphoid follicles are a constant histological feature of *H pylori* associated gastritis. I have used the Sydney system to classify and grade gastritis in a previous study.[3] In Rugge's study, however, two additional biopsy specimens were taken from the incisura angularis along the lesser curvature. Their initial findings appear to agree with previous studies[1 2 4] that lymphoid follicles are more numerous in the antrum than in the corpus in *H pylori* associated gastritis. Rugge's data also suggest a higher prevalence of lymphoid follicles in the incisura angularis than the antrum or the corpus. This is not a surprising or new finding as Genta *et al*[2] have demonstrated that lymphoid follicles were more numerous on the antral lesser curvature than on either the antral greater curvature or corpus and there was an almost linear progression in the number of follicles from proximal to distal lesser curvature. In all previous studies including my own[1 2 4], the prevalence of lymphoid follicles was strongly correlated with the degree of inflammation and the activity and severity of gastritis. My study[1] has provided further evidence that lymphoid follicles are strongly correlated with the degree of inflammation as lymphoid follicles were found in the corpus in all cases of pangastritis, but predominantly corporal. Rugge *et al*, however, do not provide information about the grades of activity, inflammation and *H pylori* in all sites studied.

The study by Genta *et al*[2] and the observations of Rugge and his colleagues suggest that the lesser curvature and incisura angularis represent a common site for detecting lymphoid follicles in *H pylori* associated gastritis from patients with ulcer and non-ulcer dyspepsia. One possible explanation for this is the higher density of lymphatic vessel plexus (primary site for lymphoid follicle formation) in the lesser curvature in comparison with other sites of the stomach. This is a matter for further investigation.

Rugge's data show that the incidence of *H pylori* associated gastritis is 52% in patients with non-ulcer dyspepsia. This figure is lower than those reported by other authors[3 5 6] who recorded incidences of 78%[3], 70%[5] and 87%[6] in similar clinical conditions. Rugge's data also confirm those reported by the author[1] that lymphoid follicles are seen in *H pylori* negative gastritis defined by histological criteria. Further studies are needed, including serological investigations, to confirm/exclude previous infection by *H pylori*[7] in patients with *H pylori* negative gastritis.

Rugge's letter also addresses the issue of MALT derived gastric lymphoma and *H pylori* infection. It is known that the incidence of MALT derived primary gastric lymphoma is higher in the lower part of the stomach than the upper part and this parallels the prevalence of *H pylori* infection and the formation of lymphoid follicles in *H pylori* associated gastritis. The similarities in the epidemiology between *H pylori* infection, the formation of lymphoid follicles and that of MALT derived gastric lymphoma necessitate further studies to look at the incidence of MALT derived gastric lymphoma in specific sites in the antrum and the corpus, as Rugge's observations imply.

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2 Genta RM, Hamner HW, Graham DY. Gastric lymphoid follicles in Helicobacter pylori infection: Frequency, distribution and response to triple therapy. *Hum Pathol* 1993;**24**:577–83.
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