Figure 2 Magnifying chromoscopic view. (A) Domes in the Peyer's patches of a control subject, surrounded by dense villi. (B) Irregularly even domes in the Peyer's patches of a patient with Crohn's disease, surrounded by scattered villi.

disease is likely to be more exposed to the luminal antigens and to be in closer contact with the immune system.⁴ Notably, the non-caseous epithelioid granuloma was frequently identified in the biopsy specimens taken from PPs. Such minimal Crohn's disease lesions may originate from PPs and may be related to gut-associated lymphoid tissues underlying the FAE. It has been postulated that M cells are related to the pathogenesis of Crohn's disease through their function as a portal of entry for potentially pathogenic agents.⁴ In fact, M cells were detected exclusively in the FAE on electron microscopy. It is difficult to obtain M cells by conventional endoscopic biopsy, because they are located on the domes but not in the villi of PPs.^{3,4} Therefore, magnifying endoscopy is useful to clearly recognise the FAE of the domes.

Saburo Shikuwa*

Department of Internal Medicine, National Nagasaki Medical Center, Omura, Nagasaki, Japan

Hajime Isomoto*, Yohei Mizuta

Second Department of Internal Medicine, Nagasaki University School of Medicine, Sakamoto, Nagasaki, Japan

Takashi Suematsu

Central Electron Microscope Laboratory, Graduate School of Biomedical Sciences, Nagasaki University, Sakamoto, Nagasaki, Japan

Masahiro Ito

Department of Pathology, National Nagasaki Medical Center, Omura, Nagasaki, Japan

Shigeru Kohno

Second Department of Internal Medicine, Nagasaki University School of Medicine, Sakamoto, Nagasaki, Japan

Correspondence to: Dr H Isomoto, Second Department of Internal Medicine, Nagasaki University School of Medicine, 1-7-1 Sakamoto, Nagasaki 85-8562, Japan; hajime2002@yahoo.co.jp

doi: 10.1136/gut.2007.120717

*These authors contributed equally to this study.

Competing interests: None.

References

- 1 Hizawa K, Iida M, Aoyagi K, et al. The significance of colonic mucosal lymphoid hyperplasia and

aphthoid ulcers in Crohn's disease. *Clin Radiol* 1996;51:706-8.

- 2 Fujimura Y, Kamoi K, Iida M. Pathogenesis of aphthoid ulcers in Crohn's disease: correlative findings by magnifying colonoscopy, electron microscopy, and immunohistochemistry. *Gut* 1996;38:724-32.
- 3 Ishimoto H, Isomoto H, Shikuwa S, et al. Endoscopic identification of Peyer's patches of the terminal ileum in a patient with Crohn's disease. *World J Gastroenterol* 2004;10:2767-8.
- 4 Gullberg E, Soderholm JD. Peyer's patches and M cells as potential sites of the inflammatory onset in Crohn's disease. *Ann NY Acad Sci* 2006;1072:218-32.
- 5 Lockhart-Mummery HE, Morson BC. Crohn's disease (regional enteritis) of the large intestine and its distinction from ulcerative colitis. *Gut* 1960;1:87-105.
- 6 van Kruiningen HJ, Ganley LM, Freda BJ. The role of Peyer's patches in the age-related incidence of Crohn's disease. *J Clin Gastroenterol* 1997;25:470-5.
- 7 Fujikura S, Tanaka M, Inatsuchi S, et al. Ultrastructural study of Peyer's patches. *J Clin Electron Microscopy* 1983;16:5-6.

Internationalisation of high-impact gastroenterology journals, 1970-2005

Recent decades have seen an increase in publications in English from the international community in basic science journals, as well as in general

and specialty medical journals.¹⁻⁶ However, to date, no one has examined the international publishing trends in gastroenterology and hepatology journals. We examined the extent of internationalisation in this field with regard to high-quality research publications over the period 1970-2005. Additionally, earlier studies discussing internationalisation of biomedical literature did not deal with the impact of multinational collaborations (articles involving authors from two or more countries). Thus, our secondary aim was to describe changes in multinational research publications during this period.

We reviewed the three highest-ranked gastroenterology journals based on journal impact factor and total literature citations for 2005: *Gastroenterology*, *Hepatology* and *Gut*.⁷ We collected data for every fifth year over the period 1970-2005. All issues (January through December) of the journals were retrospectively reviewed for each of the selected years, and all basic and clinical research articles involving original investigation were analysed. The nation of origin of each article was assigned based on the affiliation of its investigators. Additionally, articles were classified as national or international, with national articles defined as those published by authors from the country of publication for the journal (*Gastroenterology* and *Hepatology*—USA; *Gut*—UK); international articles were those published by authors from all other countries.

A total of 3769 research articles published in the two US-based journals and 1589 articles published in *Gut* were analysed. Figure 1A shows the proportion of national and international publications for the three journals collectively. The proportion of international articles in the journals increased significantly from 31.0% of all articles in 1970 to 67.6% in 2005. The countries most responsible for the increases in international publications were Germany (0.3% of all articles in 1970, rising to 9.9% in 2005), Japan (0.3 to 9.8%), France (0.7 to 6.1%) and Italy (0.3 to 5.3%). When journals were considered individually, the internationalisation of *Gut* was the most dramatic, with international articles representing 34.4% of all articles in 1970 and 83.4% in 2005.

A significant increase in the number of multinational collaborative publications occurred during the study period. For example, in 1970, collaborations comprised 0.7% of all research articles in *Gut*, compared with 6.8% in 1990 and 24.6% in 2005. Similar trends were seen in *Gastroenterology* and *Hepatology* (fig 1B).

Figure 1 Proportion of (A) national and international research articles for the three journals collectively and of (B) multinational collaborative publications in the three top-rated gastrointestinal journals.

Our findings demonstrate the dramatic internationalisation of authorship of research articles in the leading gastroenterology journals since 1970. Additionally, they raise the question, "What are the reasons for the decline in American and British dominance of gastrointestinal research?"

Potential explanations abound and are primarily speculative; however, editors of the American journals have described a definitive increase in international manuscript submissions and declining share from the US since 1995.⁸⁻¹⁰ Possible causes for changes in the number of international submissions, and subsequent publications, include incentives to publish findings in prestigious English-language journals, increased English proficiency of international authors and the advent of electronic submissions. Although electronic submissions make it faster and easier for all authors to submit their work for publication, the impact on international authors is probably greater, helping them overcome barriers of time, distance and money. Furthermore, electronic submissions have made multinational collaborations much easier by providing the ability to incorporate

investigators from multiple countries, which offers numerous advantages.

One major concern raised by our data is that the observed changes reflect a decline in American and British gastroenterology research. It is imperative that future studies be directed at identifying and correcting deficiencies hindering the growth of American and British gastroenterological science.

Phil A Hart, Jamal A Ibdah, John B Marshall

Division of Gastroenterology, University of Missouri
School of Medicine, Columbia, Missouri, USA

Correspondence to: Dr J B Marshall, Division of
Gastroenterology, M580, University of Missouri School
of Medicine, One Hospital Drive, Columbia, MO
65212, USA; marshallj@health.missouri.edu

doi: 10.1136/gut.2007.120899

Competing interests: None declared.

References

- 1 Stossel TP, Stossel SC. Declining American representation in leading clinical-research journals. *N Engl J Med* 1990;**322**:739-42.
- 2 Rahman M, Fukui T. A decline in the U.S. share of research articles. *N Engl J Med* 2002;**347**:1211-12.
- 3 Chen MY, Jenkins CB, Elster AD. Internationalization of the American Journal of Roentgenology: 1980-2002. *Am J Roentgenol* 2003;**181**:907-12.
- 4 Tompkins RK, Ko CY, Donovan AJ. Internationalization of general surgical journals: origin and content of articles published in North America and Great Britain from 1983 to 1998. *Arch Surg* 2001;**136**:1345-52.
- 5 Szokol JW, Murphy GS, Avram MJ, et al. Declining proportion of publications by American authors in major anesthesiology journals. *Anesth Analg* 2003;**96**:513-17.
- 6 Bliziotis IA, Paraschakis K, Vergidis PI, et al. Worldwide trends in quantity and quality of published articles in the field of infectious diseases. *BMC Infect Dis* 2005;**5**:16.
- 7 Institute for Scientific Information. *Journal citation reports*. Philadelphia: Institute for Scientific Information, 2005.
- 8 LaRusso NF, Link AM. Gastroenterology: an international journal. *Gastroenterology* 1995;**108**:625-6.
- 9 Berk PD. HEPATOLOGY and hepatology: the trends continue. *Hepatology* 1995;**21**:875-8.
- 10 Bissell DM. International hepatology. *Hepatology* 2001;**34**:1252-3.