examined at the histopathology units in Belfast. The mean age of the patients at presentation was 27 years. The histological features of these cases were reviewed and heterotopic mucosa was identified in 29 of the diverticula. All 29 contained gastric mucosa, 17 contained both antral and body type mucosa, 11 contained antral mucosa only, and in one case alone body type mucosa was identified. Foci of mucosal ulceration were identified in eight cases, and eight other diverticula were inflamed—two acutely. In 13 cases the gastric mucosa showed essentially normal features. One of the cases which contained fundal mucosa also included a focus of pancreatic tissue. CLO were sought in those cases which contained heterotopic gastric mucosa using the Giemsa and cresyl violet techniques. CLO were not identified in any of the sections examined.

Morris *et al* reviewed 65 diverticula which contained gastric mucosa and identified CLO in only one diverticulum which had been removed from a 6 year old Samoan boy.² de Cothi *et al* found CLO in the gastric mucosa found in four diverticula, all of which showed active inflammation in the heterotopic tissue.¹ Wyatt reviewed 30 diverticula, 16 of which contained foci of gastric mucosa.³ She found mucosa associated bacteria in nine, and in three cases these had the morphological characteristics of *Campylobacter pylori*. When she applied a polyclonal rabbit antiserum to these sections, she was unable to confirm that the bacteria were *C. pylori*.

C. pylori are resistant to the low pH common in the human stomach and they readily colonise human gastric mucosa.⁴ In some diverticula heterotopic mucosa may cover an extensive area and may result in a low pH in the adjacent ileum. *C. pylori* are much less resistant, however, than other species to bile and are found only rarely in the stomachs of patients in whom there is evidence of bile reflux.⁵

C. pylori, at best, seem to be only rarely successful in colonising the heterotopic gastric mucosa present in Meckel's diverticula. This may reflect the presence of bile, to which *C. pylori* are sensitive, in ileal contents.

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- 2 Morris A, Nicholson G, Zwi J, Vanderwee M. *Campylobacter pylori* infection in a Meckel's diverticulum containing gastric mucosa. In: Megraud F, Lamouliatte H, eds. *Gastrointestinal pathology and Campylobacter pylori*. First Meeting of the European Campylobacter Pylori Study Group. Bordeaux: Gist Brocades, 1988; 149.
- 3 Wyatt JI. *Campylobacter pylori* in Meckel's diverticulum. In: Megraud F, Lamouliatte H, eds. *Gastrointestinal pathology and Campylobacter pylori*. First Meeting of the European Campylobacter Pylori Study Group. Bordeaux: 1988; Gist Brocades, p 150.
- 4 Tompkins DS, West AP. *Campylobacter pylori*, acid and bile. *J Clin Pathol* 1987;40:1387.
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Dr Newbold comments:

Despite the findings of Dr Heatley *et al*, it seems clear from the three studies quoted¹⁻³ that curved bacilli identical with *Campylobacter pylori* can, on occasions, be found in

heterotopic gastric mucosa in Meckel's diverticula. There is no firm evidence as yet that these represent *C. pylori*, although the selectivity for gastric type mucosa and association with histological gastritis would support this contention.

I would agree with Dr Heatley *et al* that the presence of bile in the small intestine may well hinder colonisation of heterotopic mucosa by *C. pylori*. Additional factors which could account for a low colonisation rate include the small size of many gastric foci and the location of the heterotopic mucosa in some instances within the submucosa of the diverticula. In these latter cases the overlying epithelium is of normal ileal type and would therefore impede or prevent colonisation by *C. pylori*.

C. pylori are at most only rare colonisers of Meckel's diverticula and almost certainly play little or no part in the pathogenesis of diverticulitis at this site. Confirmation of their presence in even a few cases, however, would show the ability of *C. pylori* to traverse the length of the bowel while remaining viable, thus making spread from person to person by the faecal-oral route feasible.

BOOK REVIEWS

A Colour Atlas of Gynaecological Cytology. OAN Husain, E Blanche Butler. (Pp 125; £40.) Wolfe Medical Publications. 1989. ISBN 0-7234-0913-7.

The histopathologist's head has been in the sand for long enough! Final MRCPPath regulations now require candidates to have spent at least three months in a diagnostic cytopathology laboratory. This, and the fact that more histopathologists are faced with cytological preparations to interpret, have renewed interest in this aspect of diagnosis. In the important and topical area of cervical disease new publications have appeared which are of considerable help.

Among them is *A Colour Atlas of Gynaecological Cytology*. This book is clinically orientated, reflecting current gynaecological use of diagnostic cytology, concentrating mainly on the appearances of cells in cervical smears. There are nine chapters and a useful reference list. Topics covered include normal cervical smears, inflammatory, reactive, and viral changes, the appearances of some contaminants, cervical intraepithelial neoplasia, and invasive cervical carcinoma. There is a useful section on endometrial cytology and a brief account of some of the appearances in samples from the vulva, vagina, and ovary.

Each of the chapters commences with a short explanatory introduction which is followed by the photomicrographs; the majority of these are clear and of adequate quality. They are accompanied by concise descriptions of the features shown. Some histological preparations are included to help explain the cytological appearances. There is an interesting final chapter entitled "problem cases" in which the authors illustrate and discuss combined lesions, discrepancies between cytological and histological material, and the presence of small abnormal cells in cervical smears.

The book is partly intended as a bench

book and I think it succeeds. The sections on normal and inflammatory appearances were the most helpful. It is a visually attractive book but suffers from a common problem of atlases: the necessarily short explanations are sometimes insufficient, especially in the chapter on CIN where grading can be difficult. For this topic, newcomers to the field (and MRCPPath candidates) may find more help from a longer text.

PI RICHMAN

Biopsy Pathology and Cytology of the Cervix. Biopsy Pathology Series. DV Coleman, DMD Evans. (Pp 396; £48.50.) Chapman & Hall. 1988. ISBN 0-412-25460-3.

The use of the colposcope and colposcopically directed biopsy has brought pathologists to recognise the wide range of appearances to be seen in the cervix. The cytological picture has been known for rather longer, but it is only recently that the two disciplines have been integrated in the study of the cervix. The combined approach is reflected in this book, which is one of Chapman and Hall's excellent *Biopsy Pathology* series. Professors Coleman and Evans take us through techniques for collecting and dealing with specimens and cover the normal and inflammatory pictures before going on to dysplasia and malignancy.

One might question the amount of space allotted to CIN, which is relatively brief. In particular, the section on diagnostic pitfalls, which includes such major sources of disagreement as atypical squamous metaplasia and papillomavirus infection, could profitably have been expanded to a chapter in its own right. Compared with the relatively brief overview of CIN the coverage of squamous carcinoma is almost too thorough.

The combined approach is seen at its best in the discussion of adenocarcinoma in situ and endocervical adenocarcinoma. These two chapters are outstanding, with authoritative text and apposite illustrations. There is a final chapter which gathers together a clutch of rarer tumours.

In summary, this is an excellent book for the pathologist faced with an unfamiliar or exotic lesion. It is of less value in the minutiae of the various grades and pitfalls of the CIN classification. This, the commonest cause of interobserver disagreement, still awaits a definitive text.

JENNY DYSON

Confidence Interval Analysis (CIA) (Full price £65; to educational establishments, research institutes, and the NHS £45.95.)

CIA is a menu driven, user friendly computer program designed to assist in the calculation of confidence intervals, and is specifically to be used in conjunction with the book *Statistics and Confidence*, which has been reviewed recently. The program has been produced to run on IBM compatible microcomputers and others using MS.DOS. There is a very detailed, somewhat repetitive manual, which used examples taken directly from the book.

The statistical content, data checks, numerical value restrictions, and warning messages within the program are all admirable, but the data entry and printing facilities are limited. In most instances the user may choose whether to enter raw data or summary