Drs Loker and Stephenson comment: We consider the differing distribution of the c-myc protein p62<sup>−</sup> in benign and malignant mucinous ovarian tumours to be of considerable importance. Of particular interest is the identification of a subset of borderline mucinous tumours that may behave aggressively, and this possibility is currently under investigation.

The authors' views concerning both mutation of p62<sup>−</sup> in malignant neoplasms and the presence of c-myc expression on a subcellular distribution of the gene product are interesting and warrant further investigation. Unlike the authors, however, we have only very rarely found cytoplasmic staining in non-malignant glandular epithelia and those which are paraffin wax embedded. This is true for normal tissues, including glandular epithelium from a variety of sites, fibroblasts, and inflammatory cells expressing the gene, and for benign neoplastic glandular epithelia. Thus in our hands cytoplasmic staining does seem to reflect a genuine perturbation of cell biology towards expression of the malignant phenotype. We thus consider the observations outlined in our paper to remain valid.

We would gladly welcome the views of other workers on this point and await further developments in this area with interest.

Dipstick urinalysis for bacteriuria

We noted the comments of Coia and Wills with interest.<sup>1</sup> Both they and other recent authors<sup>2</sup> seem to have assumed that significant growth on culture is the gold standard and that the dipstick is wrong if there is a discrepancy, particularly in the case of negative dipstick and positive culture. But the third and perhaps most important consideration is whether the growth has any clinical importance.

We investigated this problem last year when we examined 5834 urines for protein, blood, nitrite, leucocyte esterase and culture: 2560 (44%) were negative for all four analytes, 33 of which gave a significant growth comprising 0·6%, of total specimens, but 9·0% of the 369 significant growths. These findings are similar to others.<sup>3</sup>

From the total we examined 1521 inpatient specimens in greater detail. A clinical bacteriologist visited all available patients who had a specimen with significant growth, or if this was not available, examined the clinical notes to try to determine whether the growth was clinically important. This was assessed from the history and clinical findings, especially regarding temperature, chills and loin or suprapubic pain. A decision could usually be made at the first visit but in a few patients repeated inquiries had to be made, especially concerning the effect of treatment on symptoms. The results are summarised in the table where positive means positive for any one of the four analytes and negative means negative for all four analytes.

The causes of this high number of significant growths with no clinical importance (63 of 114; 55%) are sometimes speculative and may vary from place to place. But in our situation, it does seem reasonable to abandon culture in specimens with negative stick results. This can be refined further. We found that the most important single dipstick result regarding a positive culture was a positive nitrite, alone, or in any combination. If nitrite was negative, then the next most important was a positive leucocyte esterase. This alone, however, was associated with an increased number of negative culture results. But if positive in the absence of nitrite positivity and in the presence of positive results in both protein and blood, then there was a closer relation between a positive dipstick result and a positive culture of clinical importance. Furthermore, if we adopted these two dipstick criteria as indications for culture: (i) positive nitrite alone or in any combination; (ii) negative nitrite but positive for leucocyte esterase blood and protein, then all of those found dipstick negative, even when yielding a significant growth on culture, were not found to be clinically important.

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Dr Coia comments:

In our own study we did not attempt to evaluate the clinical importance of all our culture positive isolates. The question we wished to address was how good the semiautomated dipstick test was at predicting the presence of bacteriuria. Significant growth on culture is the accepted standard method for such detection, and as such, any novel method should be compared with it. The data presented by these authors, and in the literature cited by them, would all seem to suggest that the dipstick test is inferior in this respect.

The interpretation of the clinical importance of such bacteriuria is a separate (albeit related) issue, and the point is well made by Loker et al that the results of all diagnostic

Automated measurement of plasma viscosity using the CoulterViscometer II

With reference to the recent letter from DI Fish et al regarding the paper by Cooke and Stuart,<sup>4</sup> we would like the opportunity to bring the subject up to date. Having reviewed the findings, both in the reference data by Cooke and Stuart and the DHSS document,<sup>5</sup> we found that the daily shutdown procedure has been modified to incorporate a greater concentration of sodium hydroxychloride solution (4% available chlorine) and that cleaning the sample valve daily has been recommended. The instrument software has been improved to reduce the incidence of "data scatter" messages when analysing high viscosity samples, though in the event of this message still being encountered, a second analysis of the sample is recommended. Viscosity measurements greater than 5 mPa.s are now reported by the instrument, but are flagged with an asterisk to indicate that the value is outside the linear response range of the instrument. Samples with an extreme increase in plasma viscosity—for example, in severe macroglobulinaemia—will generate the message "BLOCKAGE ? OVER-RANGE ?" which would draw the operator's attention to an unusually high plasma viscosity or fibrin clot.

We believe that these modifications afford improved instrument performance and provide added benefits to the clinician.

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CLO in Meckel's diverticulum

de Cothi et al recently reported the presence of Campylobacter-like organisms (CLO) in four of 13 Meckel's diverticula which contained heterotopic gastric mucosa.<sup>6</sup> We should like to report our experience in 29 such cases which contained heterotopic mucosa and which were examined histologically in the Departments of Histopathology at the Royal Victoria Hospital and the Belfast City Hospital.

Between 1981 and 1985, 109 diverticula removed from 63 men and 46 women were
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 type were identified in eight cases, and eight other diverticula were inflamed—and two acutely. In 13 cases the gastric mucosa showed essentially normal features. One of the cases which contained foci of gastric 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.

Morrison 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. de Costi et al found CLO in the gastric mucosa found in four diverticula, all of which showed active inflammation in the heterotopic tissue. 

When she applied a polychromatolytic anti-sialomucin stain, 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. In this gastric mucosa, some diverticula heterogeneous mucosa may extend for 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.

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 fact that in which C. pylori are sensitive, in ileal contents.

The histopathologist’s head has been in the sand for long enough! Final MRCPath regulations now require candidates to have spent at least three months in a diagnostic cytopathology laboratory. This, 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 orovary.

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 appearances, 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 MRCPath candidates) may find more help from a longer text.

PI RICHMAN

BOOK REVIEWS


The histopathologist’s head has been in the sand for long enough! Final MRCPath regulations now require candidates to have spent at least three months in a diagnostic cytopathology laboratory. This, 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 orovary.

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The use of the colposcope and colposcopically directed biopsies has brought pathologists to recognise the wide range of appearances to be seen in the cervix. The cytological picture has been known for a rather longer time, but it is only in the last two decades that these 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 at a surgical specimen as the presence of 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 important and authoritative 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 Statistica 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