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# CORRESPONDENCE

## External Quality Assessment

It was very interesting to read Klys and Lessell's paper on EQA last month.[1] It is clear, though, that the East of Scotland scheme described is mainly to do with education, and little to do with audit. The preceding paper in the Journal, by GF Batstone,[2] laid down five key attributes of medical audit: the East of Scotland scheme fulfils only one of these five.

The published selection of cases from set 6 revealed that all the cases comprised uncommon or very rare entities. Furthermore, two of these cases were then described as "non-discriminatory" because everyone got them right! This is not at all what audit is about. To give an example, if pathologist A is right 99% of the time and pathologist B is right 99·8% of the time, it could be argued that either there was little to chose between them, or that pathologist B was five times better than pathologist A. Surely, medical audit ought to start off by setting standards and checking the quality of the service with regard to the 99% of the workload, rather than concentrating on the 1% which the East of Scotland scheme has done.

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1 Klys MS, Lessells AM. External Quality Assurance in histopathology: Experience of the East of Scotland scheme. *J Clin Pathol* 1992;45:288–91.
2 Batstone GF. Medical audit in clinical pathology. *J Clin Pathol* 1992;45:284–7.

*Drs Klys and Lessells comment:*

Dr Simpson criticises the content of our sample EQA set as being composed of very rare or uncommon entities. It is an all too common misconception in pathological circles that less common lesions are somehow not as important as common lesions. Due to the high turnover of cases seen, any pathologist will regularly and inevitably see unusual cases, which may be of great clinical importance. Each of our cases is derived from recent routine input to the participating laboratories, and several of these have presented considerable diagnostic challenges. Lack of knowledge could lead to serious consequences in any given case.

We have not included very common lesions as we have assumed a basic level of competence among consultant staff. We emphasise that the EQA should be complementary to other forms of audit and that it does not attempt to address all of the issues, even in the refined area of histopathological diagnosis. Ideally, an internal quality assurance system will operate in laboratories to review a sample of the routine workload.

We use the term "discriminatory" in relation to Item Difficulty (p value).[1] If any individual item in a test has a very high or very low value, it contributes little or nothing to the test in terms of distinguishing the abilities of individuals. It can only give limited information about the group as a whole.

In his paper Dr GF Batstone lays down five key attributes of medical audit culled from a variety of definitions of medical audit. Dr Simpson states that the East of Scotland scheme fulfils only one of these. Although he does not state which one, we assume he refers to number 3 (educational aspects). It is useful to remember that these are attributes rather than defining criteria. We would argue that the East of Scotland EQA scheme contains elements of all five key attributes. A more detailed analysis of the scheme can be found in our paper.

1 Schumacher CF. Scoring and analysis. In: Hubbard JP, ed. *Measuring medical education*. New York: Lea and Febiger, 1978:48–58.

## Draft quality assurance for surgeons in breast cancer screening

One of the quality objectives listed in the NHS Breast Screening Programme (NHSBSP) Draft Quality Assurance Guidelines for Surgeons[1] is that 80% of benign biopsy specimens should weigh less than 20 g (fresh or fixed weight). This variable does not yet appear on the current NHSBSP breast screening histopathology form for data collection. As we could find no data on breast tissue density we sought to determine if breast tissue, whether fibrous or fatty, varies in density.

Pieces of formalin fixed breast tissue were selected from mastectomy specimens, breast reduction tissue, and local excision biopsies. Breast tissue was classified as fatty, fibro-fatty, or predominantly fibrous macroscopically. Tissue containing mainly carcinoma was also included. Each piece was assessed for volume using a calibrated measuring burette containing formalin (accuracy to within 1 $cm^3$). Each piece was then weighed on electronic scales (accuracy to 0·5 g) and the density calculated (table).

*Weight and density of biopsy specimens examined*

| *Tissue type* | *Number of biopsy specimens* | *Weight range (g)* | *Density range ($g/cm^3$)* |
|---|---|---|---|
| Fatty breast tissue | 5 | 6–45 | 0·9–1·1 |
| Fibro-fatty tissue | 5 | 6–48 | 1·0–1·1 |
| Mainly fibrous tissue | 5 | 12–40 | 1·0–1·1 |
| Mainly carcinoma | 5 | 4–12 | 0·9–1·15 |

The density of formalin fixed breast tissue does not vary by more than 15% from 1 g/$cm^3$, which we found surprising and unexpected. Thus breast tissue density does not seem to be a significant confounding variable when using breast biopsy specimen weight as a surgical quality assurance variable.

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1 NHSBSP. Draft Quality Assurance for Surgeons in Breast Cancer Screening. London: NHSBSP Publication 20, 1991.

*Drs CA Wells and JP Sloane, comment on behalf of the National Co-ordinating Group for Breast Cancer Screening Pathology:*

We thank Drs Jones and Clarke for their simple but very useful study. The Group is presently redrafting the green booklet *Pathology Reporting in Breast Cancer Screening* and reassessing the data to be collected on the pathology reporting form. The Group had already decided to recommend that weight rather than dimensions should be recorded in the new version, partly because of the surgical quality assurance objective and partly because it was felt to represent a more reproducible way of recording specimen size. Variation in density due to the relative proportion of fat and fibrous tissue was considered unlikely to undermine significantly the value of weighing, but published data were not readily available.

The redrafting and printing of the updated booklet and form will, however, take about another year. If pathologists wish to record weight from now on, they could do so by entering it in the comments/additional information section.

## Current views on cervical neoplasia

We were most interested to read the article by Anderson *et al*,[1] with its recommendations for reporting CIN. This was based on two days of discussions by an expert working party, convened by the British Society for Colposcopy and Cervical Pathology and sponsored by the National Health Service Cervical Screening Programme National Co-ordinating Network. The article, although cogently argued and well illustrated, dismayed us by coming to conclusions based on personal opinions, and by disregarding the only practical and objective evidence on the subject based on the systematic analysis of the practice of experienced histopathologists.

In 1989 two independent groups published work on this subject. The larger was a Scottish group[2] which examined the consistency of histopathological reporting of cervical punch biopsy specimens and was organised from Dundee. The other was an Anglo-Welsh group co-ordinated from Cardiff and with identical aims.[3] In both of these studies many (12 Scots, eight Welsh) well informed histopathologists, having reviewed the diagnostic criteria, attempted to report on 100 consecutive punch biopsy specimens and the results were analysed using $\kappa$ statistics. In the case of the Scottish group this process took well over a year. Kappa statistics were used because it was appreciated that there was no definitive or objective "correct" answer. These two groups were entirely unaware of each other's activities and, by complete chance, both published their results in March 1989.

The conclusions of both groups were uncannily similar. Both reported that CIN 3 and invasive carcinoma could be diagnosed with a high degree of confidence, but also that CIN I could not be reliably distinguished from other low grade abnormalities of the cervical squamous epithelium (virus, metaplasia, inflammation, etc). Each of these groups, also completely independently, suggested that the CIN I, II and III grading should be simplified into high and low categories. Interestingly, Richart, the originator of the CIN system, himself now suggests

that the three grade system should be abandoned in favour of a simplified version.[4] For the working party to ignore this objective evidence and to propose complicating further the CIN system with an additional "borderline" group we regard as astonishing! The diagnosis of CIN I in the presence or absence of viral changes or inflammation was correctly made by both the Scottish and the Welsh groups only slightly more often than would have occurred by chance. Therefore, the addition of an extra low grade category "basal abnormalities of uncertain significance"[1] can only increase this confusion. The present working party has not suggested any new diagnostic criteria nor has it suggested any additional techniques which might be used to clarify this diagnostic difficulty. At the moment there is no way in which to determine the "correct" answer in any individual case. We would be very interested to know whether the members of this expert group are carrying out an objective study, similar to the ones done previously, of the "robustness" of their new classification.

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1 Anderson MC, Brown CL, Buckley CH, *et al.* Current views on cervical intraepithelial neoplasia. *J Clin Pathol* 1991;44:969–78.
2 Robertson AJ, Anderson JM, Swanson Beck J, *et al.* Observer variability in histopathological reporting of cervical biopsy specimens. *J Clin Pathol* 1989;42:231–8.
3 Ismail SM, Colclough AB, Dinnen JS, *et al.* Observer variation in histopathological diagnosis and grading of cervical intraepithelial neoplasia. *Br Med J* 1989;298:707–10.
4 Richart RM. A modified terminology for cervical intraepithelial neoplasia. *Obstet Gynecol* 1990;75:131–3.

# BOOK REVIEWS

**Glomerular Pathology.** W Lawler. (Pp 208; £60.) Churchill Livingstone. 1991. ISBN 0–443–04062–1.

This monograph consists of a series of short chapters with concise text and numerous illustrations covering the various types of glomerular changes encountered in renal biopsy material. Instead of detailed references there are lists of additional reading material at the end of each chapter. In the preface we are told that this book is aimed at the junior histopathologist and, certainly, the text would seem appropriate at this level of experience and training. My only real quarrel with the text is that in chapter 11 the author fails to explain the difference between those types of focal proliferative glomerulonephritis which have developed on a background of diffuse mesangial disease as in IgA disease, lupus, etc.) and those which have not (microscopic polyarteritis and Wegener's etc).

In the individual chapters the author places the "clinical features" section at the end which I consider inappropriate because the whole approach to diagnosis should be based on the clinical setting in which the renal biopsy specimen has been obtained. My particular concern is that the clinical data should not be regarded as unimportant which is the most likely conclusion if it is placed at the end of a chapter. So often nephrologists do not appreciate how valuable clinical data can be to the renal pathologist faced with a difficult biopsy specimen.

The final point about this book is that the illustrations of light microscopy are generally poor with a rather "foggy" appearance. They lack the sharpness, which is essential for demonstrating the finer aspects of glomerular changes. In some cases the staining technique appears less than ideal but, regardless of this problem, the photographic technique appears to be quite poor. In contrast the electron micrographs are of good quality.

DR TURNER

**Cytokines.** MJ Clemens. **The Medical Perspectives Series.** (Pp 122; paperback £11.95.) BIOS Scientific Publishers. 1991. ISBN 1–872–74870–8.

This book offers a straightforward introduction to cytokines, covering a wide range of topics such as cytokine structure and function, signal transduction, oncogenes, cytokine gene expression, the biological roles of cytokines in both health and disease, finishing with a chapter on cytokines as potential therapeutic agents.

The chapter on signal transduction is especially good, providing a simplified yet detailed description of a complicated subject, as is the coverage of oncogenes. Throughout the whole book the authors include tables of basic yet useful scientific properties such as molecular weights, exon numbers, chromosone location of genes, affinity constants as well as biological data such as cytokine networks, and principle producing cells under a wide variety of stimuli. This combination of basics with detail makes this an excellent book for researchers and students new to the cytokine field, as well as established researchers who may need specific details or who would like to broaden their knowledge, to related areas. On the negative side we feel that the authors overuse the Interferons in examples, and could have sometimes used the Interleukins as an alternative.

Overall, this volume is excellent and successfully approaches an extremely diverse and complicated field in a straightforward manner.

CA MCINTYRE
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**Biopsy Pathology of Muscle.** 2nd ed. M Swash, MS Schwartz. **Biopsy Pathology Series 15.** (Pp 237; £50.) 1991. ISBN 0–412–34880–2.

This is the second edition of this volume on muscle biopsy pathology. As with other books in the series this is a bench book, intended for the use of the diagnostic histopathologist who receives muscle biopsy specimens, and for trainees in neuropathology and histopathology.

The book has 11 chapters, and starts with the structure of normal muscle and the indications for performing a muscle biopsy. A methods and techniques section follows in which the biopsy procedure is described with a detailed account of the treatment of the specimen in the laboratory. The characteristics of normal muscle, including morphometric features, are followed by the histological appearances of disordered muscle under the headings: inflammatory myopathies; muscular dystrophies; "benign" myopathies of childhood; metabolic, endocrine and drug induced myopathies; and neurogenic disorders. For the sake of completion there is a chapter on tumours. The book is well illustrated throughout with light and electron micrographs.

The publication is timely as there are few books to guide the practising histopathologist in the interpretation of muscle biopsy specimens. It is up-to-date and practical, and is likely to serve most of the needs of the readership for whom it is intended.

M HONAVAR

**Thymus Update. 4 The Thymus in Immunotoxicology.** Ed MD Kendall, MA Ritter. (Pp 360; no price given.) Harwood Academic Publishers. 1991. ISBN 3–7186–5113–0.

This book is fourth in a series on aspects of the thymus which has previously covered the thymic microenvironment, T lymphocyte differentiation, and its role in tolerance induction. All very sound and predictable, but this next volume sounds rather unpromising. Do not be put off by the title, however, immunotoxicology appears to include not just dioxins and organo-tin compounds, but acyclovir, cyclosporin, and FK506, even trauma and stress. We all know the effects of thymectomy, and how the thymus changes in size with disease and involutes with age. Most of us have heard of thymic education, apoptosis, and the programmed death of lymphocytes. Fewer are familiar with concepts of autoimmunity arising from the effects of thymus damage. And it is only the international cabal of thymus researchers who grapple with the finer detail of the effects of drugs on the cells and ultrastructure of the thymic microenvironment. Fascinating but esoteric stuff.

The preoccupations of this international community then fill what is essentially an upmarket hardback newsletter—what the crucial citations are, which PhD theses are worth reading, where to submit your thymus-related manuscripts, which were the good conferences and where they will meet next. More and more of us need thymic education, and the insight this book gives into the state of the art make it a useful library buy—but the other volumes will be needed too.

RS PEREIRA

**Biopsy Interpretation of Lymph Nodes. Biopsy Interpretation Series.** SH Swerdlow. (Pp 412; £110.00.) Raven Press. 1992. ISBN 0–88167–840–6.

This is the first book on the interpretation of lymph node biopsy specimens to give full recognition to the role of modern techniques, including immunohistochemistry and molecular biology, in making the correct diagnosis. The book is set out more or less in the traditional manner except that it begins with a