Correspondence

Detection of parvovirus B19 in macerated fetal tissue using in situ hybridisation

Walters and colleagues[1] recently compared the effectiveness of in situ hybridisation with immunochemistry in detecting parvovirus infection following fetal death. They concluded that in situ hybridisation is the method of choice. We have used the antibody R92F6 over a number of years (with a routine streptavidin-biotin technique and a 1/500 dilution of primary antibody), and have found it to be a reliable method for confirming parvovirus infection. For example, in an 18 month period during 1993 and 1994 we detected parvovirus inclusions in haematoxylin and eosin stained sections from 10 cases of fetal death (with varying degrees of maceration from none to severe), and used immunochemistry to confirm infection in all cases.[2] We identified a further case (a very macerated 11 week-size missed abortion) by retrospectively staining all non-malformed 10 to 24 week fetal deaths occurring during the same period. Fragmented viral inclusions were identified on further close scrutiny of the haematoxylin and eosin stained sections from this case. Walters *et al* themselves provide one possible reason why they failed to demonstrate immunochemical labelling in four of eight cases with definite inclusions—the use of liver sections. In our study we used lung sections (in which inclusions are usually readily detectable) and did not encounter a problem with excessive background staining. On the basis of the currently available evidence I do not feel it is yet possible to say which technique is more effective in confirming parvovirus infection. Certainly I would recommend the use of lung rather than liver if doing immunochemistry.

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1 Walters C, Powe DG, Padfield CJH, *et al.* Detection of parvovirus B19 in macerated fetal tissue using in situ hybridisation. *J Clin Pathol* 1997;**50**:749-54.
2 Wright C, Hinchliffe SA, Taylor C. Fetal pathology in intrauterine death due to parvovirus B19 infection. *Br J Obstet Gynaecol* 1996;**103**:133-6.

Drs Fagan and Powe comment:

We agree with Dr Wright's comments that antiparvovirus B19 (R92F6; Novacastra, Newcastle upon Tyne, UK) is an excellent antibody for detecting parvovirus, especially in lung tissue.[1] However, we investigated liver tissue[2] as it is recognised that hepatic erythroblasts are probably the major site for parvovirus replication in the fetus, and therefore might allow detection of early infections. In agreement with Morey *et al*,[3] we suspect that more infected cells are detected with the in situ hybridisation DNA probe than with immunocytochemistry.

We also explored the limits of parvovirus detection in severely degenerate, macerated tissues. There seems no reason to believe that virally expressed protein is more resistant to the macerative process than are other cellular proteins, whereas nucleic acids seem to be more resistant to degradation. Liver tissues often showed far more degenerative change than other organs, and so was ideal for this second objective, although not ideal for a primary diagnostic exercise. We found that severely autolysed liver tissue often had numerous artefacts and reduced staining intensity, which made interpretation more difficult when using an immunocytochemical technique for parvovirus B19 (R92F6).

In our hands, we were able to obtain good staining in the same liver with unequivocal results by using an in situ hybridisation technique.

1 Wright C, Hinchcliffe SA, Taylor C. Fetal pathology in intrauterine death due to parvovirus B19 infection. *Br J Obstet Gynaecol* 1996;**103**:133-6.
2 Walters C, Powe DG, Padfield CJH, *et al.* Detection of parvovirus B19 in macerated fetal tissue using in situ hybridisation. *J Clin Pathol* 1997;50:749-54.
3 Morey AL, Porter HJ, Keeling JW, *et al.* Non-isotopic in-situ hybridisation and immunophenotyping of infected cells in the investigation of human fetal parvovirus infection. *J Clin Pathol* 1992;45:673-8.

Use of histopathology in the practice of necropsy

A recent audit of necropsy reporting[1] showed that fewer than one in five postmortem reports audited included a histology report. The paper then went on to analyse the reasons for not routinely performing postmortem histology and suggested that the Royal College of Pathologists should reconsider its existing guidelines regarding the necessity of histology in most postmortem examinations.

I consider the college guidelines to be correct as they stand: a postmortem is incomplete without histology of the major organs, regardless of whether macroscopic pathology is present. Consider the following situation.

A patient presents with iron deficiency anaemia. Colonoscopy and biopsy reveal caecal carcinoma. During the right hemicolectomy, intraoperative frozen section shows liver metastases. Macroscopic examination of the specimen shows a tumour penetrating to the serosal surface and involving many nodes.

Would any histopathologist seriously consider not performing histology on the right hemicolectomy specimen? Yet exactly the same arguments put forward for not performing postmortem histology would apply to the this surgical case. After all, full histology would be unlikely to add anything to alter patient management.

I think the real reason for the low percentage of postmortem reports with histology is that many consultant pathologists are overworked. Overworked consultants have to cut corners and they cut them in the areas with the least impact on patient care. None of us likes to admit that we are substandard in any aspect of our work, so we invent reasons why the work we have not done is not necessary in the first place.

Instead of trying to get the college to reduce the standards required for postmortem reports, we as a profession should be arguing for the correct level of staffing to enable us to do the job properly.

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1 Williams JO, Goddard MJ, Gresham GA, *et al.* Use of histopathology in the practice of necropsy. *J Clin Pathol* 1997;**50**:695–8.

Dr Williams comments:

When we examined the use of histopathology in necropsy practice, subjects fell into three categories: those where histopathology had been carried out (25%); those where according to the guidelines it was judged advisable but was not done (19%); and those where histopathology was agreed to be of little diagnostic value (56%). As our guidelines included "Any tumour, whether or not contributing to death, unless adequately biopsied in life, and diagnosis made", Dr Simpson's example, presenting at necropsy, falls into the group where histopathology should have been done—not to alter patient management but to ensure accurate diagnosis.

We found there were 19% of cases where histopathology was not done even though it was indicated by the guidelines. This may well reflect excessive workload—several pathologists were doing many more necropsies and surgicals than the Royal College of Pathologists recommends.

However, when the group debated the necessity for "histopathology of the major organs, whether or not macroscopic pathology is present", a very strong view prevailed that where there was no expectation of diagnostic gain—for example, a young person dying by hanging, overdose or trauma, histopathology was not indicated and should not be done. Similarly, a physician would never actually take a "full history", the questions asked would quite properly reflect the clinical situation. As pathologists, we expect clinicians to use evidence-based criteria before requesting diagnostic tests. Surely pathologists should be equally aware of the need to target time and resources appropriately? Postmortem histopathology is expensive and time consuming, and cannot be justified unless there is reasonable expectation of diagnostic gain.[1]

The group therefore considered that when the examination could not be expected to contribute to the final diagnosis, omission of histopathology did not constitute substandard care. Perhaps instead of recommending routine histopathology in all cases, the college might organise a prospective study of the value of histopathology in deaths thought to be caused by myocardial infarction. If more information was available in this contentious area, decisions could be based on evidence rather than precedent.

1 Sackett DL, Haynes RB, Guyatt GH, *et al.* Clinical diagnostic strategies. In: *Clinical epidemiology*. Boston: Little, Brown and Co, 1991: 3–18.

Book reviews

Death Investigation: the Basics. B Randall. (Pp168; US$94.95.) Galen Press, 1997. ISBN 1 8836 2024 4.

"A foreign country; they do things differently there"—L P Hartley (1895–1972)

The author of this short paperback describes himself as a rural pathologist. His

practice is situated in the central United States, covering North and South Dakota. He has a heavy commitment to the Indian health scheme and its problems, particularly the high incidence of infant death. The book comprises 130 pages of text and 38 pages of bibliography, index, and appendixes.

The author sets out the aims of the book clearly, describing it as an introductory work that "focuses on the duties, jurisdiction and working methods of the primary death investigator". This is an office whose duties embrace those of the medical examiner, coroner (American style), coroner's officer, and junior police officer (both uniformed and CID). The book fulfils its declared function thoroughly and well. It serves as a basic introductory text for death investigators who have had no medicolegal or forensic science training.

Death investigation in the United States differs greatly from the methods enshrined within the laws of the United Kingdom. There are great variations between States in the legal framework, the methods, and the personnel involved—for example, overlapping jurisdictions and potential conflicts between military and civil powers, state and county would not occur here.

The chapters on scene investigation and body identification are adequate. That on scene investigation is heavily weighted towards gunshot wounds. The chapters on public relations, death certification, and necropsy are based entirely on practices in the United States. All the chapters contain useful cautionary advice. The message that comes over loud and clear is "Don't put mouth in motion before brain engaged". Sudden infant death syndrome is sympathetically covered.

The book, although short, is well produced, clearly written, and competently illustrated. It is a good buy for those for whom it was intended, but it has little relevance to the procedures usually followed in the United Kingdom. I wish the book every success in its intended American market. I cannot recommend its purchase here.

MIKE GREEN

Manual of Infection Control Procedures. N N Damani. (£22.50.) Greenwich Medical Media Ltd, 1997. ISBN 1 9001 5128 6.

Whatever study on hospital acquired infection is examined, and whatever definitions are used, the incidence of hospital acquired infection is always between 5% and 10%. Some of these infections are endogenous, and therefore not always preventable; however, with good aseptic techniques it should be possible to reduce exogenous or person to person infection. A few basic measures, such as appropriate handwashing should provide the answers. It is because the answers are so basic that our inherent problems lie—doctors will just not wash their hands. Those with an interest in preventing cross infection, such as medical microbiologists or infection control nurses, or indeed nurses at large, either write or certainly read books such as this one. At long last chief executives are waking up to the realisation that preventing, as far as is possible, nosocomial infection makes good economic sense.

Dr Damani and his colleagues from Craigavon Hospital have produced a manual that, from their own experience, has proved to be of benefit. The manual is full of practical advice, obviously written by someone with hands on experience. As Professor Ayliffe in his preface says, "This book can be used as a basis for producing shorter manuals for individual wards, and in the preparation of audit programmes." I congratulate the author in writing a manual that is clear and comprehensive, but above all else of practical use to the "poor bloody infantry".

R C SPENCER

Infection. Southgate, Lockie, Heard, Wood. Oxford University Press, 1997. ISBN 0 1926 2092 4.

Two general practitioners, a medical microbiologist, and an infectious diseases physician have combined their talents to produce a book targeted at the trainee GP. The concept is laudable. Chapters cover general aspects, immunity and immunisation, the interface with laboratory and microbiologist, and a comprehensive review of infections by system. Cover of the use of the laboratory, travel medicine, and immunisation are particularly good. AIDS is afforded a chapter all to itself "because it serves as a paradigm for many of the principles we have discussed". This attempt to marry microbiological science with infection management in the real world has resulted in a text that is woolly in part. The interjection of *points for discussion* in the *practice clinical meeting* and of boxed case reports, while potentially a good idea, became irritating because of their selectivity. However, some of the lists given are excellent aides memoir. A golden opportunity to discuss infection control has been missed ("Use a steam autoclave to sterilise instruments" does little to prevent the widespread inappropriate use of benchtop sterilisers in general practice).

This is a book written by committee, and it suffers from a lack of continuity. There are many inconsistencies, such as antibiotics recommended under specific infections not mentioned in the general chapter on antibiotics, confusion between Fucidin (a proprietary name) and fusidic acid, and between megaunits or grams for penicillin dose. There are numerous typographical and grammatical errors to add further irritation (such as *Salmonella enterocolitis*, and inconsistency in the spelling of *Neisseria gonorrhoeae*). Of more serious concern are errors such as ceftriaxone 25 mg for gonorrhoea, and routine antigen testing for human immunodeficiency virus, cytomegalovirus, and *Chlamydia pneumoniae* in serum.

Correction of these vagaries in the second edition will increase its educational value, and make the book a useful tool for trainee GPs.

G L RIDGWAY

Intra-operative Diagnosis of CNS Tumour. Moss, Nicoll, Ironside. (£99.00.) Arnold, 1997. ISBN 0 3406 7737 6.

A successor to the book on smear diagnosis in neuropathology, edited in 1981 by Adams, Graham, and Doyle, was long overdue and we now welcome the publication of *Intra-operative Diagnosis of CNS Tumours* by Moss, Nicoll, and Ironside.

Intraoperative diagnosis of tumours remains a personal challenge between the specimen and the pathologists who cannot benefit, at this stage of the process, from the wealth of tools recently introduced to help them, immunohistochemistry in particular. What the authors have tried, successfully, to do with this book is to accompany the pathologists through the stages of the preparation and interpretation of the specimen to enable them to offer the best possible service to the neurosurgeon who is waiting, sometimes impatiently, over an open skull, to know the nature and grade of malignancy of a neoplasm.

In this context, the first chapters are more than a mere introduction to the following ones; indeed, they give invaluable information and advice about how to become familiar with the specimen and how to decide how to submit it to smear or frozen preparation. As neurosurgeons may tackle a non-tumour lesion or sample an area adjacent to the neoplasm, it is essential for pathologists to be able to recognise non-neoplastic, reactive tissue and to identify normal brain. Accordingly chapter 3 goes into minute details and is richly illustrated. Chapter 4 should be read not only by neuropathologists but by neurosurgeons to make them realise why the diagnostic report may be unsatisfactory when the tissue has been handled carelessly before reaching the laboratory.

The subsequent chapters describe and illustrate the variety of tumours, primary and secondary, intradural and extradural, as well as a few non-neoplastic lesions, that neuropathologists come across in their routine practice. As the book was designed as a bench companion in everyday work, I found the number of tables accompanying the chapters, in particular chapter 5, to be a particularly clever idea. Illustrations are plentiful and of high quality; they will help enormously in reaching the correct diagnosis.

Only a few critical notes: as each chapter consists of a fairly long and detailed text and numerous pictures, all clear and relevant, I would have found it more helpful for the reader, especially trainees, if reference to the latter were included in the former. Spelling errors are very few indeed and one has to congratulate both authors and publishers. Although spell checkers can do marvellous things nowadays, their services do not extend to deciding between words included in the dictionary but with completely different meanings (precautious instead of precocious puberty on page 99).

I am sure *Intra-operative Diagnosis of CNS Tumours* will be received with enthusiasm by neuropathologists in the UK and abroad, as it is a practical text that will be of great help in clarifying doubts that may arise at a crucial time of the diagnostic process. Trainees should treasure the advice and suggestions it offers and not be deterred by its cost.

F SCARIVILLI

MCQ Companion to General and Systematic Pathology, 2nd edition. S S Cross. Churchill Livingstone, 1997. ISBN 0 4430 5281 6.

Books of multiple choice questions are always popular with the type of student who feels that they are learning pathology to pass an examination. They are less likely to be popular with teachers who are trying to emphasise concepts and clinical relevance rather than training students in a true or false style of fact recall.

Despite my reservations, this is an excellent example of an MCQ book. It gives the impression that these questions are tried and tested so that there are almost no ambiguities. They are written, generally, in a clear concise language and avoid linguistic complications that are common to some MCQs, although they lapse occasionally—for example, "Dystrophic calcification may occur in the absence of any derangement of calcium metabolism" could be phrased as "Dystrophic calcification may occur in patients with normal calcium metabolism". The book covers both general and systemic pathology and comprises 300 five part MCQs. Each answer is on the following page and gives a one or two sentence explanation. The overall size will be about right for most students.

This is a companion to Underwood's undergraduate text and there is another companion from the same stable using a problem based text of case studies. I was left wondering why the companion books were separate items. Perhaps in the future they could be combined so that students could test their factual recall and problem solving skills with one book.

SUSAN DILLY

Forensic Pathology. D J Williams, A J Ansford, D S Priday, A S Forrest. Churchill Livingstone, 1997. ISBN 0 4430 5388 x.

Forensic Pathology is a typical example of what one had thought might have been allowed to die—no longer an atlas but a colour guide. I find it difficult to overcome a prejudice against such publications, finding the concision of the text and the consequent need for illustration—admittedly selected "on their practical value rather than their aesthetic appeal"—of more appeal to the voyeuristic than the serious student.

The basis of judgment of such a book is the quality of the photographs; these are largely good but several are not, failing to show with clarity (without recourse to the text) the "practical value" alluded to in the preface. Others are so obvious as to raise the question of reason for inclusion, returning to my uneasy feeling regarding possible purchasers.

I cannot regard this book as an essential resource for students; neither general principles nor grey areas are explored in sufficient depth.

S LEADBEATTER

Correction

The Thyroid: Fine Needle Biopsy and Cytological Diagnosis of Thyroid Lesions (J Clin Pathol *1998;**51**:54)*
This book review was written by Dr Colin Stewart; it was wrongly attributed to A M McNichol.
The error is regretted.