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