Accuracy and completeness of the documentation of blood culture results

Heard and colleagues’ raise the thorny issue of how important microbiological results and advice should be recorded in patients’ notes and by whom. Reported here is a prospective audit identifying how accurately this is done. It was decided that the audit should concentrate on blood cultures yielding a clinically significant isolate, a finding that all members of staff should consider important and worthy of prompt documentation.

This work was performed in a 1045 bed hospital where all Gram stain and culture results from clinically significant blood cultures are telephoned by a medical microbiologist to either the attending doctor or to qualified nursing staff on the ward. It is expected that the information and advice given over the telephone should be promptly documented in the patient’s notes and that nursing staff would contact the patient’s attending doctor. Where it is clear from nursing staff that the patient is still septic, not responding to empirical treatment, on inappropriate treatment, or when another medical action is necessary, the attending doctor is contacted directly. Because of the time constraints of personal visits to the ward are the exception rather than the rule. In a minority of cases culture results are imparted to attending doctors face to face. Of the 61 episodes reviewed, 16 (26%) were not recorded in the patient’s notes at all. One hundred and eleven individual contacts were made and 71 (64%) of these contacts were made in the patient’s notes. Not all of the 61 episodes necessarily had two contacts made; on 11 occasions the microbiologist wrote directly in the notes. It was of note that 60 of the 76 calls to doctors were documented in the patient record, whereas only 10 of the 34 calls to nurses were documented. There were marginally fewer documented calls at weekends (56% v 67% during weekdays) but this was largely because more weekend calls were made to nurses. In one instance it was unclear to who the telephone call was made.

The number of contacts documented is similar to previous studies that have looked at the accuracy of both telephone and face to face contacts. In similar studies 83% and 79% of clinically significant blood cultures had at least one entry in the patient’s notes. There seemed to be little difference if the result was reported over the telephone or face to face. An audit looking at day one results only reported a documentation rate of 54% but contaminated blood cultures, which may be less likely to be documented, were also considered.

This audit shows that advice given by microbiologists to other members of staff is recorded in the notes on fewer than two thirds of occasions, although where recorded it is generally accurate. The finding that over one quarter of clinically significant blood cultures had at least one bacteremia, which was not noted at all is troubling. This audit was not designed to measure whether these omissions led to adverse outcomes, although one might expect this to be the case for both infection and the need for prompt antibiotics. These data support the need for microbiologists to review all clinically significant bacteremias and write in the patient notes. With all the other calls on the time of microbiologists, few departments can provide such a service. Without innovations such as electronic patient records or real increases in the numbers of medical microbiologists, the laudable advice of Heard and colleagues that ‘microbiologists should make relevant notes in patients’ records’ is unlikely to be a realistic option in many hospitals in the UK.

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References

Pelvic sarcoma arising from chronic osteomyelitis

Gulmann et al reported on a case of chronic osteomyelitis presenting as a chest mass mimicking a soft tissue sarcoma. The authors suggested that, although chronic osteomyelitis is a known cause of confusion with bone tumours, a definitive diagnosis is feasible by specific immunohistochemical staining.

However, the potential risk of transformation of chronic osteomyelitis into a malignant lesion is an unforgettable point both for the clinician and the pathologist. Two years ago we encountered a patient developing a rapidly aggressive sarcoma with an uncommon onset. He was a 23 year old man, with a 16 month history of chronic osteomyelitis of the left hip bone, referred to the urological department. Three years before, he had been involved in a road accident with a bilateral fracture of the thigh bone and left acetabulum. On admission the patient had fever, dysuria, and suprapubic pain. Physical examination demonstrated an osteocutaneous fistula with foul smelling drainage on the lateral aspect of the left hip bone. On standard computerised tomography a poorly defined mass was seen, causing bladder impression and connected with the fistula was found. A surgical exploration was performed with drainage of the septic tissue, and a 5 cm pelvic lymph node was excised from the left iliac chain for histological examination. Light microscopy showed a solid proliferation of spindle shaped cells, with a high mitotic index, associated with lymphatic aggregates and necrotic tissue. Staining for S-100 protein, desmin, vimentin, and focal smooth actin was positive. The histological and immunohistochemical features of the pelvic node confirmed an undifferentiated sarcoma. The patient died three months postoperatively. Malignant lesions are rare complications of chronic osteomyelitis. As reported in a large series by McGrory et al, ‘squamous cell carcinoma is by far the most common type of associated malignant disease, whereas sarcoma has been reported only rarely.’ The latency period between the onset of osteomyelitis and the development of neoplasia may be as short as one year, or it may be decades. In general, the neoplasia occurs in the osteomyelitis sinus or in a chronic draining fistula. The most frequent clinical findings of malignancy in chronic fistulating osteomyelitis are persistent foul discharge, pain, and bleeding. In this case, the osteocutaneous fistula was connected to the left iliac area where the sarcoma arose and spread to pelvic lymph nodes. In conclusion, even though chronic osteomyelitis may be a cause of difficult differential diagnosis with bone tumours, we would emphasise the need to maintain a high index of suspicion in a case of chronic osteomyelitis with an unusual presentation.

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Prepubertal testicular tumours in Kashmir: a histopathological report of 15 cases

Prepubertal testicular tumours are very rare and occur at an incidence of 0.5–2/100 000 children. 1,2 Of all the paediatric malignancies they rank seventh in frequency and represent only 0.1% of all paediatric solid tumours.

We conducted a study to see the pattern of prepubertal testicular tumours in Kashmir. The material for our study was obtained from the files of the histopathology section of the department of pathology, Government Medical College, Srinagar, Kashmir, India. The records of all prepubertal testicular tumours reported from January 1984 to December 1998 were studied. Routine and special stains and immunohistochemical analysis were applied on fresh sections from paraffin wax embedded blocks wherever required. Fifteen patients presented at or below the age of 4 years old (3 boys and 12 girls) and occurred at an incidence of 0.5–2/100 000 children. 1,2 Of all the paediatric malignancies they rank seventh in frequency and represent only 0.1% of all paediatric solid tumours.

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book devoted exclusively to the clinicopathological features of vascular skin lesions, and this book fills that void.

The book has black and white clinical and histopathological illustrations but is supplemented by a CD with colour versions. This companion CD is much better, although some illustrations are very out of focus, especially the low power pictures. I suppose if the reader is prepared to revert from the book to computer images, then the CD is a useful substitute. But that may not always be possible.

Most, if not all, vascular cutaneous lesions are covered in this book. The text is brief and in some areas, disappointing. In particular, haemangiopericytoma is covered in a very superficial manner. My impression is that the text has to be supplemented by reading other textbooks containing vascular lesions for more detail. The most disappointing feature of the book is that some of the illustrations are not informative at all. The small size format allied to black and white do not do justice to the book. Better quality black and white pictures may have obviated the need for colour. Most benchbooks are used to a "wallpaper match" and because many of the illustrations are of such low magnification, even this becomes difficult.

However, this is a useful book that has all the lesions in one compendium. I think that dermatologists, who dabble in histopathology, and trainees will find this book more useful that fully fledged dermatopathologists. I think there is an opportunity to improve the book in future editions.

R Chetty

Diagnostic Cytopathology, 2nd edition

It is a daunting task to produce a contemporary and comprehensive textbook of cytopathology that adequately deals with the full expanse of the topic. This difficulty is compounded by the need to write a text that is not only appealing, but functional as a desktop reference for a diverse group of practitioners, from student cytotecnologists to expert cytopathologists. Yet, the second edition of Diagnostic Cytopathology manages to accomplish much of this task.

This single volume book is organised into a systems based review of general cytopathology; the second edition maintains its focus on cytology and minimum discussion of sampling and preparatory techniques. There is some attention paid to the impact on cytomorphology of excollative versus fine needle aspiration sampling; however, the effects of cyto preparation on the cytomorphological features and interpretation are not frequently discussed. This is particularly evident in the differences in cytomorphology that occur as a result of liquid based preparations. The application of immunocytchemistry is covered in most sections, but again greater detail would be useful, and there is little discussion on the use of other ancillary studies. New technology is mentioned as overviews on liquid based processing, automated screening devices, and other modalities for screening for cervical cancer, in addition to newer sampling techniques such as endoscopic ultrasonographically guided pancreatic fine needle aspiration.

There is variability in the comprehensiveness of coverage of some topics, but particular strength is shown in the sections relating to the respiratory system, serous cavities, breast, and female genital tract. With some other chapters, the advanced reader may be left wanting for details when topics are rather briefly discussed. To compensate, the reader is at times directed to a chapter's bibliography for further information, and in general these bibliographies are reasonably comprehensive, although inclusion of more recent references is inconsistent. Novice readers, in particular, may appreciate the use of bulleted lists of the pertinent cytomorphological features of the major entities, which have been offset from the text by coloured headings and are followed by a discussion of the diagnostic pitfalls, review of the differential diagnoses, and often with a suggested approach to the separation of entities under consideration. These discussions could have been aided by the inclusion of tables to contrast and compare differential diagnostic entities. In addition, allusions to the limitations of cytomorphology to separate some entities could have been more clearly stated.

The nomenclature and classification systems used in the book follow most standard schema, but there are some chapters in which the most recent classification system is not applied. Notable examples include the use of the 1973 World Health Organisation (WHO) classification for urothelial neoplasms rather than the 1998 WHO/International Society of Urological Pathology Consensus classification, and the use of the revised European–American classification of lymphoid neoplasms (REAL classification) rather than the 2001 WHO classification. The book does not address recent changes to histological classifications that have rendered definitive cytomorphological diagnosis more difficult. This is illustrated by bronchioloalveolar carcinoma, which by the 1999 WHO histological definition must be a non-invasive lesion. Because invasiveness cannot be accurately assessed in exfoliative or fine needle aspiration specimens, a cytomorphological diagnosis of bronchioloalveolar carcinoma may not correlate with the ultimate histological classification of the excised lesion; a dilemma that is not addressed within the discussion of this entity.

The book is richly endowed with colour photomicrographs aptly demonstrating the pertinent cytomorphological features of normal cellular constituents and pathological entities under discussion. The cytomorphological images include air dried and alcohol fixed material with both May–Grunwald–Giemsa and Papanicolaou staining. Some illustrations of liquid based preparations are included, but most of the illustrations are of conventional cytomorphological preparations. Occasional gross and histological photographs are used to good effect and the focus, clarity, and colour balance of most illustrations are good to excellent.

Diagnostic Cytopathology demonstrates a number of strengths and is particularly useful as an introductory and general reference book. Further updating would be useful with regard to classification schemes and the impact of new technologies on cytological interpretation, but this does not detract from the wonderful illustrations and sound basis in cytomorphology with which the book is endowed.

S Boerner

CALENDAR OF EVENTS

Full details of events to be included should be sent to Maggie Butler, Technical Editor JC P The Cedars, 36 Queen Street, Castle Hedingham, Essex CO9 3HA, UK; email: maggie.butler2@elsevierworld.com

Practical Pulmonary Pathology
22–25 July, 2003, Brompton Hospital, London, UK
Further details: Professor B Corrin, Brompton Hospital, London SW3 6NP, UK. (Fax: +44 (0) 20 7 351 8293; Email: b.corrin@ic.ac.uk)

ACP Management Course for Pathologists, 2003
10–12 September 2003, Hardwick Hall Hotel, Sedgefield, County Durham, UK
Further details: Ms Valerie Wood, ACP Central Office, 189 Dyke Road, Hove, East Sussex, BN3 1TL, UK. (Tel: +44 01273 775700; Fax: +44 01273 773303; Email: valerie@pathologists.org.uk)

Dermatopathology Update
10–13 September 2003, Fairmont Copley Plaza Hotel, Boston, Massachusetts, USA
Further details: Tel: +1 617 384 8600; Email: hms-cme@hms.harvard.edu; website: wwww.cme.hms.harvard.edu

Predictive Oncology Meeting
15–16 September 2003, Solent Hotel, Fareham, Portsmouth, UK
Further details: Professor Ian A Cree, Translational Oncology Research Centre, Department of Histopathology, Michael Darmady Laboratory, Queen Alexandra Hospital, Cosham, Portsmouth PO6 3LY, UK. (Tel: +44 (0)2392 286378; Fax: +44 (0)2392 286379; Email: ian.cree@portphosp.nhs.uk)

Medicare India
6–8 April 2004, Pragati Maidan, New Delhi, India
Further details: Rob Grant, Kinex Log, 5 New Quebec Street, London W1H 7DD, UK. (Tel: +44 (0)207 723 8020; Fax: +44 (0)207 723 8060; Email: rob.grant@kinexlog.com; Website: www.medicare-expo.com or www.kinex-log.com)
Reduced bone formation in UK Gulf War veterans: a bone histomorphometric study

N F W Blatchley, H A Lee and J P G Bolton

J Clin Pathol 2003 56: 559
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