aortography as a false aneurysm of the aortic arch which had originated at the left subclavian artery.

At thoracotomy an apparent hole in the aorta was oversewn with removal of slough from a false aneurysmal cavity adjacent to the upper lobe of the left lung. Cultures from pericardial tissue, the wound drain, and stools grew *Salmonella enteritidis*. He was given intravenous ampicillin 2 g four times a day. While apparently recovering, he suddenly collapsed and died 18 days after surgery from a massive haemoptysis. At necropsy it was impossible to identify the source of blood loss. The left lung contained a ragged cavity partly lined with thrombus in its upper lobe, with no evidence of vascular patency into this area. There was a small true aneurysm between the left carotid and subclavian ostia where a suture line was intact. The aorta showed moderate to severe atherosclerosis.

Although *Salmonella* thoracica aortitis is rare, *salmonellas* have been incriminated in 18–35% of infected aneurysms. The elderly are particularly liable to the complications of *salmonella* bacteraemia, with 25% developing an endothelial infection. Clinical presentation may be with chronic sepsis unresponsive to antibiotics, or with features of a primary focus, such as osteomyelitis.

Alternatively, the symptoms may relate to the presence of an aneurysm or its rupture. Frequently there may be no such signs, even after rupture. A review of 34 cases of infected aortic aneurysms reported fever in all cases, positive blood cultures in 53%, and pre-operative rupture in 79%. In 73%, of cases the patient was over 60 years old. The tendency for Gram negative infections to progress rapidly and rupture makes urgent surgical imperative following diagnosis. If not treated surgically, mycotic aneurysms are invariably fatal. Successful management requires prompt diagnosis, appropriate antibiotics based on culture sensitivities, and intraoperative Gram stain with culture of the aorta and contents. Wide resection of infected tissue is necessary, with extra-anatomic grafting through clean tissue planes. Cholecystectomy has been advocated if *Salmonella* is identified preoperatively, as the biliary tree is often a sanctuary for organisms and for continued sepsis.

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**MATTERS ARISING**

**Risk of metastasis during fine needle aspiration**

Denton et al expressed the opinion that there is a systematic underestimation of the risk of metastasis during needle biopsy. This topic is indeed worthy of discussion. The true incidence of these accidents, however, is and probably always will be impossible to assess. Not all cases are diagnosed, nor are they reported: it seems remarkable that not one case of peritoneal metastasis after needle biopsy has even been reported. The variability of survival is also of great importance: 20%, of the reported subcutaneous metastases are detected after four years or more.

Good indications of the true incidence were given by Smith, who showed that the actual risks of metastasis after needleling were very low (of the order of 0·5/10 000). Bleeding and sepsis after needle biopsy are at least 10 times more common than metastasis.

Puzzled by the question of the number of metastases and being unable to obtain a satisfactory scientific answer, we thought it more relevant to examine the circumstances in which they occurred and found that the occurrence of metastasis seemed to be associated with large needles, core biopsy devices, high numbers of passes, and absence of normal parenchyma covering the tumour.

Accordingly, we evolved a golden rule for needle biopsy: one pass with a fine needle (22 gauge or larger) through normal parenchyma. This seems to be well advised because we were unable to find any report of metastasis in such circumstances.

When it can be calculated, the risk of metastasis seems to grow exponentially—for instance, increasing the needle diameter by a factor of 60% (without improving diagnostic efficiency).

In our opinion good practice is that needle biopsies of solid masses should be performed by (i) trained teams, (ii) only when taking decisions about the patient's management, (iii) through normal parenchyma, whenever possible, respecting anatomical boundaries, (iv) always with a fine non-cutting needle, (v) the sampling has to be done under suction, which must be maintained when withdrawing the needle, (vi) the sample quality has to be checked later to keep the number of passes to the very minimum.

In our opinion the case referred to accumulated risk factors, and should, in no way, be used to affirm that the rate of metastasis after needle biopsy, and especially fine needle aspiration, is higher than is usually thought. It could serve, instead, to emphasise the risk factors and how they can be avoided. Large cutting needles, in particular, should not be used when cancer is suspected.

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**Letters to the Editor**

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F ROUSSEAU

Laboratoire d'Histologie Cytologique — C.H.U., Hôpital Charles Nicolle, F 76031 Rouen, Cédex France


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needle. Numerous well recognised texts state that this causes loss of the aperture into the body of the syringe, after which the aspirate will have to be repeated. 1

Metastasis to the track remains one of the rarer complications of needle biopsy or aspiration, but without further observation the effectiveness, or otherwise, of measures to reduce the risk will remain uncertain.


Histomorphometry and immunohistochemistry of beef sausages

On reading the letter by Dr Boon concerning histological studies of beef sausages, 1 it occurs to me that, in view of the culinary nature of the specimens, microsseous fixation might afford optimal results. Perhaps he should consider a collaborative study with his namesake, Dr ME Boon, 2 an authority on this technique.


Use of Tipp-Ex for surgical resection margins

We would like to draw attention to the recent letter in which Tipp-Ex fluid was recommended as a convenient marker for surgical resection margins. Dr Harris has been "economical with the truth" in stating that processing equipment is "unaffected" by Tipp-Ex fluid. We have found that Tipp-Ex fluid rapidly blunts microtome knives. In the interests of economy and laboratory harmony we would like to set the matter straight.

T J CLARKE
Department of Pathology, Royal Devon and Exe4ter Hospital, Exeter
P SARFIELD
Department of Histopathology, Southampton General Hospital, Southampton S09 4XY


BOOK REVIEWS


This is a most unusual book, the stated aim of which is to allow pathologists to test their skills at interpreting ultrastructural appearances. Thirty cases are set out individually with a brief clinical history and, initially, a single "diagnostic" electron photomicrograph. A set of questions are posed and then the authors go through the light microscopic and ultrastructural features of the lesion in question, providing further illustrations (all in black and white) to back up their diagnoses. The 30 cases presented comprise 24 tumours, three forms of glomerulonephritis, two storage diseases, and one case which covers two different viral infections. This is probably a fair reflection of the distribution of diagnostic electron microscopy in most laboratories. Of the tumours, however, there is rather undue bias on the neuroendocrine neoplasms (which are pretty repetitious ultrastructurally) and on sarcomas. The quality of pictures throughout is perfectly acceptable, although not stunning. The explanatory descriptions and clinico-pathological discussion of each case are of good quality, if a little unimaginative. In more than half the cases the authors admit that the diagnosis could have been readily reached without resorting to electron microscopy which rather detracts from their claims about the value of this technique. Given the inevitably idiosyncratic choice of cases in a book of this type, it is hard to imagine the type of individual who might purchase it. Nevertheless, candidates frightened of being shown electron microscopy in the final MRCPath might find this section a useful informal text to flip through at the last minute.

CDM FLETCHER

The authors of this very useful and popular book are recognised experts in the field, and the text reflects their long experience and essentially practical approach. The reader seeking a comment on just about any aspect of hospital infection will find it here (although the search for it may not always be easy). The book suffers somewhat from the authors' attempt to address both a specialist and a non-specialist audience, which leads to certain sections containing status which may be inadequate for the former and probably mystifying to the latter. There are also some instances where more positive or less ambiguous statements would be helpful, and certain sections would benefit from being amplified at the expense of others which are unnecessarily wordy and repetitive. I hope there will be a third edition and that the opportunity will be taken to convert what is already a good book into the excellent one that it could be.

DM HARRIS


This is a timely, inexpensive, and highly readable paperback that is potentially of value to workers in all pathologist subspecialities. In the first chapter the authors give a simple outline of nucleic acid chemistry and cell biology and the second chapter is devoted to the general principles of practical procedures including Southern blot and in-situ hybridisation and the polymerase chain reaction. Naturally, given its length, this is not a bench book but, as the pun in the title suggests, a gentle and well illustrated introduction. The brief section on restriction fragment length polymorphism analysis would be easily understood by undergraduates. The third chapter considers diagnostic applications with emphasis on leukaemia, lymphomas, and genetic disease. This reviewer now knows a lot more about T cell gene rearrangements, and reading about them was a pleasure.

At the end of the book there is a very useful glossary of technical terms and quite an extensive bibliography comprised predominantly of 1987 and 1988 references. I highly recommend this book.

M WELLS


Ehrlichia are small pleomorphic obligate intracellular micro-organisms belonging to the family Rickettsiaceae and can cause infection in both humans and animals, notably dogs. The book is based on a symposium in Washington DC in 1988 but has been updated to include more recent data from experts on Ehrlichiae and related pathogens. The first of 13 chapters is an account of the historical background and global importance of ehrlichiosis and is followed by chapters on their cultivation, structure, biological properties, and pathophysiology. Chapter nine describes human ehrlichiosis in the USA after which there are discussions on the evolutionary history of chlamydiae, research on cowdriosis (heartwater disease in cattle), and current strategies in research on ehrlichiosis. The last chapter is an epilogue which provides a useful summing up of the contents of this undoubtedly comprehensive and authoritative account of the subject. Nevertheless, I doubt whether this book will be useful to pathologists in hospitals in northern Europe, but it may interest our veterinary colleagues and those in warmer climates.

RN PEEL

NOTICES

Mediastinal tumours—Pandora's Box

National Heart & Lung Institute
In association with
Royal Brompton & National Heart Hospital, London
3–4 December, 1990

A two day symposium designed for radiologists, respiratory physicians, surgeons, oncologists and pathologists, but should be of interest to others involved in the field of thoracic medicine. Topics will include thymomas, lymphomas, germ cell, neural endocrine and rarer connective tissue tumours. An emphasis will be made on imaging and therapy.

Further details are available from:
Postgraduate Education Centre
National Heart & Lung Institute
Dovehouse Street, London SW3 6LY
Direct telephone: 071-351 8172 (24 hrs)
Facsimile: 071-376 3442
Risk of metastasis during fine needle aspiration.

F Roussel

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doi: 10.1136/jcp.43.10.878

Updated information and services can be found at:
http://jcp.bmj.com/content/43/10/878.citation

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