- Cooper, H. L., and Rubin, A. D. (1965). RNA metabolism in lymphocytes stimulated by phytohemagglutinin: initial responses to phytohemagglutinin. *Blood*, 25, 1014-1027.
- Gardikas, C., and Israels, M. C. G. (1948). The Feulgen reaction applied to clinical haematology. *J. clin. Path.*, 1, 226-228.
- Gillis, E. M., and Baikie, A. E. (1964). Method for the demonstration of nucleoli in lymphocytes and other blood and bone marrow cells. *J. clin. Path.*, 17, 573-574.
- Greig, H. B. W. (1959). A substitute for the Feulgen staining technique. *J. clin. Path.*, 12, 93-94.
- Huhn, D., and Stich, W. (1969). *Fine Structure of Blood and Bone Marrow*, pp. 100-107. Lehmann, Munich. Hafner, New York.

- Potměšil, M., Smetana, K., and Wienerová, E. (1965). The nucleolar coefficient of the lymphocytes in the peripheral blood of patients with Hodgkin's disease. *Neoplasma*, 12, 205-214.
- Smetana, K., Janele, J., and Malinský, L. (1966). Nucleolar coefficient of lymphocytes in the peripheral blood of female patients with breast carcinoma. *Neoplasma*, 13, 643-648.
- Smetana, K., Lejnar, J., and Potměšil, M. (1969). A further contribution to the demonstration of RNA and nucleoli of blood cells in smear preparations. *Folia haemat. (Lpz.)*, 91, 381-394.
- Studzinski, G. P., and Gierthy, J. F. (1972). Cytologic appearance of the nucleolus of normal and neoplastic cells in relation to the synthesis of RNA. *Acta cytol. (Baltimore)*, 16, 245-248.

Letter to the Editor

Candida Isolates

Regarding Dr R. C. Bartlett's letter commenting on our paper (Stieritz, Law and Holder, *J. clin. Path.*, 1973, 26, 405-408), we did not mean to imply all *Candida* isolates from any patient should be speciated. Our paper concerned burned patients infected with *Candida* and in the context of *Candida* isolated from the wounds, urine, and blood of compromised hosts we still feel that speciation is important.

While I concur with Dr Bartlett's comment that 'the decision to treat should be based on clinical evidence of infection, not the species isolated', we have found this not to be the case when dealing with *Candida* infections. Because of the highly toxic nature of Amphotericin B, the decision to treat *Candida* infections is frequently delayed until the clinician is forced to treat or lose the patient. As we pointed out, many clinicians consider *C. albicans* the only *Candida* which is of clinical concern. When they receive a culture report stating that *Candida* other than *albicans* has been isolated from an infected patient, they may be lulled into a false sense of security and then finally be forced to treat with too little too late.

Our data showed that while all of the Amphotericin B MICs for *C. albicans* were 0.16 µg/ml or below, most of the MICs for *C. tropicalis* were at least one dilution higher, and in some cases two and three dilutions higher. This may imply that *C. tropicalis* infection could be a treatment problem, whereas *C. albicans* infection may not be. Support for this idea may be found in the fact that the first report, to my knowledge, of clinical isolates of *Candida* being resistant to Amphotericin B has recently been

published (Woods, R. A., *et al*, 1974). These resistant isolates were *C. tropicalis* not *C. albicans*.

While we all would like to keep the costs of health care to a minimum, the attitude that we should only do that clinical microbiology which is 'essential to diagnosis and treatment', I believe to be incorrect. In the evolution of infectious diseases and in defining infection problems, the microbiology that was 'essential to diagnosis and treatment' yesterday is not the same as the microbiology that is 'essential to diagnosis and treatment' today; nor will today's microbiology suffice tomorrow. We, the clinical microbiologists, must be alert to identifying new infection problems; the latest 'emerging' pathogens, and it must be our responsibility to warn the medical fraternity of these new dangers. If we don't, who then?

IAN ALAN HOLDER

Department of Microbiology,
Shriners Burns Institute,
Cincinnati, Ohio 45219

Reference

- Woods, R. A., *et al* (1974). Resistance to polyene antibiotics and correlated sterol changes in two isolates of *Candida tropicalis* from a patient with an amphotericin B-resistant funguria. *J. infect. Dis.*, 129, 53.

Book reviews

Transplacental Carcinogenesis Proceedings of a meeting held at the Medizinische Hochschule, Hanover, 1971 (IARC Scientific Publications No. 4). Edited by L. Tomatis and U. Mohr. (Pp. xiii + 181; illustrated. £5.00; \$12.00; Sw. fr. 40.-) Geneva: World Health Organization. International Agency for Research on Cancer. 1973. Available from HMSO, London.

Interest in the transplacental action of certain carcinogens was widely stimulated by the report from Boston in 1971 of a cluster of eight cases of adenocarcinoma of the vagina in young women; the mothers of all but one of them had received stilboestrol during their pregnancy. Although the transplacental carcinogenic activity of stilboestrol has not yet been reproduced in experimental animals, the general subject of transplacental carcinogenesis has been extensively investigated. A useful summary of current knowledge is presented in this book. Particular attention has been paid to the nitrosamines, and one group of them—the nitrosoalkylureas—has been clearly shown to act as transplacental carcinogens with the brain as the main target organ. The dose of the compound given and the stage of foetal development both appear to be crucial in determining the outcome—in particular, death or induction of malformations rather than tumours. Predictably, no tidy relationship appears to exist between teratogenic and carcinogenic activities, and many details of the actual mechanisms of transplacental carcinogenesis are still quite unknown.

The subject is, however, one of considerable potential importance. Tumours are now a major cause of death among children in advanced societies, and the

high incidence of transplacentally induced gliomas and nephroblastomas reported by the experimentalists has attracted much attention from the clinicians. Despite certain defects (notably the lack of an index), the present account provides a timely introduction to what is likely to be a rapidly expanding subject in clinical and experimental oncology.

RICHARD CARTER

Chromosomes in Human Cancer By Jaroslav Cervenka and Lucien Koulischer. Edited by Robert J. Gorlin. (Pp. viii + 203; 22 figures. \$13.75.) Springfield, Illinois: Charles C. Thomas. 1973.

The authors have gathered together most of the available information on the chromosome complements of malignant tumours (almost always abnormal) and of leukaemias, benign tumours, and pre-neoplastic lesions (frequently, though less consistently, abnormal). The first section is devoted to general considerations, including the question of specific changes in solid tumours (the highly consistent loss of a G group chromosome in meningiomas is not mentioned at this point). There follows a commendable account of the chromosome changes in leukaemias and preleukemic conditions. The final section is devoted to solid tumours.

This is a stimulating and on the whole comprehensible treatise which deals with a large amount of data. Unfortunately, there are many minor errors, particularly misspellings of authors' names, and some that are less trivial. A discussion on clonal evolution is accompanied by a table of karyotypes which may well puzzle the reader (it is not explained that the leukaemic patient concerned had congenital trisomy-21; the source of the table is given as Lejeune *et al*, 1963, but this paper has been omitted from the references at the end of the chapter). At times, there is confusion over nomenclature. Thus, the terms 'cyst' and 'cystadenoma' are used for malignant tumours, and in a report on ovarian teratomas their benign or malignant status is not given.

N. B. ATKIN

Diagnostic Orthopaedic Pathology By C. G. Woods. (Pp. ix + 298; illustrated. £8.50.) Oxford, London, Edinburgh, Melbourne: Blackwell Scientific Publications. 1972.

This book is intended to be a practical aid to the diagnosis of bone and joint lesions. There is certainly a need for such a book. It is written by the pathologist at the Nuffield Orthopaedic Centre, Oxford, and reflects his extensive experience in the field of pathology as applied to orthopaedics. The author adds his emphasis to the very sound view that diagnosis of many diseases of bones and joints (and presumably of other systems, too) is not to be established on the basis of one piece of evidence alone. Histopathology, radiology, biochemical data, and clinical information are often concerned together, in various combinations, and the wise histologist knows when to call on information from other disciplines at the same time as looking down his microscope.

The question is how the book measures up to its very laudable aim. It is relatively short and easy to read. Its illustrations, from a wide variety of lesions, include many radiographs as well as photomicrographs. One serious defect is the very limited bibliography provided. Another, at least in the experience of the present reviewer, is that the general arrangement of the material is not well suited to the practical diagnostic purpose which is put forward as the chief aim of the book. Perhaps it is likely to be of more use to the undergraduate student who wishes to have a practical account of bone and joint pathology than to the pathologist searching for the solution to a difficult diagnostic problem.

H. A. SISSONS

Muscle Biopsy: A Modern Approach (Major Problems in Neurology, volume 2) By Victor Dubowitz and Michael H. Brooke. (Pp. 486; illustrated. £7.50.) London, Philadelphia, Toronto: W. B. Saunders. 1973.

Interpretation of muscle biopsy sections can often pose considerable diagnostic problems for the histopathologist who is not accustomed to dealing with this specialized field. Professor Dubowitz and Dr Brooke are to be congratulated on producing a readable, well illustrated account of the histology of both normal and diseased muscle. The first section of the book is devoted to the techniques used in performing, processing, and staining biopsy material. Histochemical methods are dealt with in some detail and the importance of accurate fibre diameter measurements is stressed. The second section gives a detailed clinico-

pathological description of muscle disorders illustrating the use of these techniques, and in particular of enzyme histochemistry. The section concludes with an admirable summary of the analytical processes needed to arrive at a diagnosis. The third and final section, written by Dr Hans Neville, is devoted to the ultrastructural changes in muscle disease and is a first-class, concise account of this rapidly expanding field. This book represents excellent value for money and should find a place on the bookshelf of every routine histopathology laboratory.

M. S. DUNNILL

Medicine and Mycology

A course on common fungal infections will be held at Fitzwilliam College, Cambridge, on 25, 26 and 27 September 1974.

The course is intended for all clinicians and laboratory workers interested in diseases caused by fungi.

The lecturers will include: Professor R. A. Cawson (Guy's Hospital), Dr G. Clein (St George's Hospital), Dr R. Davies (St Mary's Hospital), Dr D. Evans (United Cambridge Hospitals), Mr E. G. V. Evans (Leeds General Infirmary), Dr Andrew Henderson (University Hospital, Cardiff), Dr B. Herbertson (Dept. of Pathology, Cambridge), Professor J. R. Hobbs (Westminster Hospital), Dr Rosalinde Hurley (Queen Charlotte's Maternity Hospital), Dr David Kerridge (Dept. of Biochemistry, Cambridge), Dr D. W. Mackenzie (London School of Hygiene), Dr M. F. Madelin (Department of Botany, Bristol), Dr R. R. Marples (Central Public Health Laboratory, Colindale), Dr S. O. B. Roberts (United Cambridge Hospitals), Dr Arthur Rook (United Cambridge Hospitals), Mr M. Snell (St Mary's Hospital), Dr D. C. Speller (United Bristol Hospitals).

Enrolment forms may be obtained from the Secretary, Cambridge University Medical School, Hills Road, Cambridge CB2 2QL.