Letters to the Editor

An Alternative to the Sickling Test

Working in a laboratory which performs some 20 sickling tests per week, I agree with the comment of Canning and Huntsman (this Journal, Nov. 1970, 736-7) that the Sickledex test is rather costly for routine use but that the orthodox sickling test is relatively time-consuming and occasionally gives an erroneous result.

We have accordingly prepared a reagent based upon that used by Yakulis and Heller (1964) for their slide test. This is a 2.45 M phosphate buffer (K_2HPO_4 , 214 g, KH_2PO_4 , 167 g, water to 1 litre) containing 1 mg/ml of sodium dithionite, with saponin as a lysing agent. The reducing agent is dispensed in stoppered plastic tubes marked with the number of milligrams, together with the dry saponin; for use, the contents of a tube are dissolved in the appropriate volume of buffer; the test procedure is exactly as described for Sickledex. The reagent is used only on the day of preparation.

A series of 180 tests have been checked by cellulose acetate electrophoresis of the haemoglobins: positive results were obtained with 22 AS and four SS bloods; 145 AA and nine AC bloods were negative. Two of the positives had previously been reported as negative with a slide sickling test.

It is important to remember that rapid solubility tests, such as Sickledex and the one described here, can also give false negatives if the reducing agent is present in inadequate concentration or has been allowed to deteriorate; if this is the case, however, the tubes will show the bright pink colour of oxyhaemoglobin not the blue-pink of deoxyhaemoglobin. Only if technicians are trained to recognize and look for this colour difference can a positive control be omitted; a normal control should always be used to ensure that lysis is effective to prevent the reporting of an analysed red cell suspension as 'positive'. I would maintain that these precautions apply equally to the use of Sickledex as to our cheaper substitute.

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Cellular Contamination during Automatic and Manual Staining of Cytological Smears

The article by Barr *et al* in your current number, with the conclusion that the most important of all methods aimed at preventing contamination is the constant recognition of its possibility, is a most timely one.

We encountered a more exotic form of contamination six years ago when we started using automatic staining techniques for cytological preparations. A sputum from a female patient was found to contain large numbers of spermatozoa, and investigation soon revealed that the batch had contained a number of smears from a hydrocele aspirate.

May I, however, use this opportunity to bring to the attention of your readers another equally important aspect of contamination in cytology.

When the Department of Health made screening facilities available for general practitioners, arrangements were made to supply them with kits for taking cervical smears. One of the items provided was a blue plastic container which holds four slides, and is disposable.

At the time, we felt that it would be a wise precaution to advise the use of a disposable plastic sleeve into which the slide could be placed before being deposited in the container for transmission to the laboratory. This idea was suggested by the late Dr Peter Smith and Mr J. Higgins of the Christie Hospital. It had the additional merit that if the slide was accidentally broken in transit the fragments were not mixed up with any other broken slides in the container, and almost invariably reconstruction of the slide is possible.

We made it a rule that any container in which slides were without plastic sleeves were to be discarded for incineration. We took the additional precaution of sterilising the wooden spatulae in batches of 50 in the autoclave, as it had been suggested they might harbour staphylococci. Our cultures of spatulae did not yield any growth of significance, but we have continued this practice.

During the last four years these blue containers have been found to be very useful by our colleagues for transmission of all sorts of slides, for both fixed and unfixed biological material. We think that there is a risk that these containers may harbour infective particles, and even if this risk is a theoretical one, we would urge the use either of plastic sleeves or the

Book reviews

Sensitization to Drugs Edited by S. B. de C. Baker and J. Tripod. Proceedings of the European Society for the Study of Drug Toxicity Vol. X. (Pp. 256; illustrated. £6 14s.) Amsterdam: Excerpta Medica Foundation. 1969.

This volume contains a very diverse series of 27 articles concerned with toxicity and teratogenic effects as well as sensitization to drugs which is implied in the short title. The first article deals with anti-nuclear factors and drug treatment and the last is concerned with the teratogenic effect of trifluoperazine thalidomide and other drugs in rabbits and mice. A paper of very topical interest is that by G. F. Somers on the 'Evaluation of drugs for foetal toxicity and teratogenicity in the rabbit'. The author points out that too great a reliance on the rabbit as a test animal may be misplaced and that drugs other than thalidomide may exert teratogenic effects on some animals, but not necessarily on the rabbit.

B. Halpern and his colleagues from the Institut d'Immuno-biologie in Paris have studied the immunological mechanisms which may be involved in certain forms of drug hypersensitivity. In particular, the lymphoblast transformation test has been used in patients who have become allergic to penicillin, other antibiotics, or aspirin. These workers found the lymphoblast transformation test of considerable value in the detection and diagnosis of drug allergies.

It is not possible in a short review to mention more than a few of the subjects which are dealt with in this report. A brief paper deals with the Swedish experience of jaundice complicating the use of oral contraceptives, and a more

Cellular contamination during automatic and manual staining of cytological smear—concluded

destruction of such containers after being used once.

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lengthy article deals with the question, 'What are toxicologists?' This book will be of interest to all those concerned with drug therapy, with the diagnosis of adverse reactions to drugs, or with the experimental approach to drug toxicity.

A. E. CLAIREAUX

Forensic Medicine 6th ed. By K. Simpson. (Pp. viii + 361; 138 figures. 60s.) London: Edward Arnold. 1969.

Every medical student in England since the war must have read this classic little textbook. A new edition appears every three to five years, the last in 1964, and one of Professor Simpson's greatest achievements is to contain its growth so that today's 361 pages compares with 335 pages of the first edition in 1947. Re-reading the book after 20 years one is struck by its relaxed, if somewhat pop style, which makes for very easy reading. For such a small handbook it is remarkable how the author's enormous enthusiasm for his subject comes through in almost every line. The book is aimed at medical students and lawyers, and is therefore fairly simple and non-controversial, but every pathologist engaged in medico-legal work finds it useful at times.

Since the last edition the law relating to medicine, which has changed a good deal in the last few years, has been brought up to date. Newer topics such as the battered baby are included, and recent potentially toxic drugs receive attention.

A. C. HUNT

Cell and Tissue Culture 4th ed. By J. Paul. (Pp. xi + 430; 60 figures and 21 tables. 45s.) Edinburgh and London: E. and S. Livingstone. 1970.

The foundation of modern virology on tissue culture techniques, and its increasing use elsewhere around the fringes of clinical pathology, has revealed the need for a good practical manual on the subject. John Paul's book is the answer. The fourth edition is larger and contains an abundance of new and detailed advice which answers almost every practical question that may arise. It demonstrates above all that there is no particular magic or green fingers in growing cells but simply an unremitting attention to detail.

For the clinical pathologist it is a pity that not more is said about growing blood lymphocytes and that a standard widely used technique is not quoted. Also it may be suspected that the preference for

glycerol to DMSO as a freezing protective may be because the need to add DMSO at 0°-4°C is not emphasized. But these are minor points and should not deter the tissue grower from acquiring this essential book.

H. E. M. KAY

Autoimmunization and the Autoimmune Hemolytic Anaemias By B. Pirofsky. (Pp. xiii + 537. £9.) Edinburgh: E. and S. Livingstone. 1969.

Although autoimmune haemolytic anaemia is not usually considered to be a common disorder, the author has studied 234 cases over an eight-year period in a population of approximately 2.3 million in the Pacific Northwest of the United States. This book is a personal account of his wide experience in the recognition and management of this disorder, together with a review of the theoretical aspects of autoimmunity and a detailed account of the serology of autoimmune haemolytic anaemia. The text includes 102 case histories selected to illustrate practical aspects of diagnosis and management, and these serve to remind the reader of the complexity of this group of disorders.

A surprising feature of the analysis of the case material is that only 18.2% of patients were considered to be suffering from idiopathic or primary autoimmune haemolytic anaemia, the remainder being classified as examples of secondary or symptomatic autoimmune haemolytic anaemia. The frequency of idiopathic cases is much less than those reported in other series, and suggests the use of different criteria in the classifications or selection in the referral of patients. As would be expected, neoplastic disorders of the reticulo-endothelial system are the largest subdivision of the secondary group, but how should one classify autoimmune haemolytic anaemia occurring in association with hepatic cirrhosis, rheumatoid arthritis, or ulcerative colitis? Dr. Pirofsky considers these associated diseases to be 'immunologically oriented' and classifies the anaemia as secondary or symptomatic. This broad clinical approach to autoimmune haemolytic anaemia is valuable since it encourages the clinician to search for associated diseases which, if found, support the author's thesis that an immune event involving the red cell is usually only one aspect of a more profound disturbance in the immunological mechanisms. Certainly if one is confronted with a patient with autoimmune haemolytic

anaemia and another disease, this book will indicate whether the association has been noted previously.

There is an interesting section on genetic predisposition, one family in particular including three siblings with autoimmune haemolytic anaemia. The chapter on treatment is up to date and well balanced, although it is of interest that splenectomy was performed in only nine of the author's 234 patients. This approach seems to be altogether too conservative, and the author concedes that many patients were sustained in partial remission by prolonged administration of high doses of corticosteroids and they would probably have benefited from splenectomy.

The book is well presented, easy to read, and free of typographical errors. Although expensive, it is warmly recommended to haematologists, serologists, and those particularly interested in immunological disorders.

W. R. PITNEY

Thrombosis Edited by S. Sherry, K. M. Brinkhous, E. Genton, and J. M. Stengle. (Pp. x + 762; illustrated. \$12.50.) Washington: National Academy of Sciences. 1969.

This volume is a collection of papers presented at a meeting of invited experts held in Washington in November 1967. The outstanding feature of the book is the quality of the editing of the contributions which is enhanced by the excellence of book production, particularly noticeable in the diagrams and photomicrographs.

The book follows the pattern of the meeting in being divided into six sections. The clinical spectrum of thrombus, the epidemiology, nature of a thrombus, pathogenesis, hypercoagulability, and therapy. Each of the 55 papers contains a review and bibliography in addition to the original material. It is useful to have these diverse papers together under the same cover, and for many workers this will mean a considerable saving in time and trouble searching the journals.

One major criticism must be, however, that the production of a report of a meeting two years after the event must inevitably mean that most of the original material has already been published elsewhere. A second criticism which will be appreciated by those who attended the meeting, is that, although there was much stimulating discussion following the papers, none of this has been included. Dr Simon Sevitt's useful comments on the inadequacy