Letters to the Editor

Serum antibodies in giardiasis

We read with interest the article by Ridley and Ridley on serum antibodies in giardiasis (*J. clin. Path.*, 1976, **29**, 30-34). We offer this additional information.

Earlier workers have in fact studied and reported on the serological response to *Giardia lamblia* infection. Two Romanian workers (Halita and Isaicu, 1946) showed that an antibody capable of fixing complement is produced in giardiasis. And Vinnikov in the Soviet Union in 1949 reported that an intradermal test was demonstrable in this disease. Both groups of workers used as antigen *Giardia* trophozoites recovered from the host by duodenal intubation, and, like Ridley and Ridley, both were frustrated in the further development of their tests by the lack of a consistent supply of pure antigen.

We reported in 1974 the successful use of the indirect immunofluorescent test in demonstrating a serological response in giardiasis. As antigen we used *G. muris* and *G. duodenalis* trophozoites washed directly from small intestine. The following are our results in brief: The sera of 28 of 31 persons with symptomatic giardiasis were immunofluorescent positive, with titres of 1:50 to 1:200. The IgG, IgM, and IgA serum immunoglobulin levels in these 28 patients, as determined by the Mancini immunodiffusion test, were all either normal or raised. The three giardiasis patients with immunofluorescent negative sera all had decreased immunoglobulin levels. The sera of five patients with other parasitic infections were immunofluorescent negative.

The finding by Ridley and Ridley of circulating antibody against *Giardia* in 10/34 of their malabsorption patients in whom *Giardia* could not be demonstrated seems high, and we agree with them that it cannot be assumed that all 10 patients had cryptic giardiasis.

With the recent report by Meyer (1976) of a method of axenically cultivating *G. lamblia*, a reliable source of antigen is now available which we plan to use in continuation of the above studies.

References

- Halita, M. and Isaicu, L. (1946). Reactia de fixare a complementului in lambliaza intestinala. *Ardeal. med.*, **6**, 154.

Meyer, E. A. (1976). *Giardia lamblia*: isolation and axenic cultivation. *Exp. Parasit.*, **39**, 101-105.

Radulescu, S., Meyer, E., Iancu, L., and Simionescu, O. (1974). Some aspects of the immune response in giardiasis. *Third International Congress of Parasitology, Munich*.

Vinnikov, M. E. (1949). Lambliosis. (In Russian). *Sovet. med.*, **13** (12), 18-20.

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Erratum

Dr R. D. Baynton of Calgary has drawn my attention to an error in my paper reviewing methods for the study of glycosaminoglycan excretion (*J. clin. Path.*, **29**, 111, 1976). In the appendix under the heading of Screening Test the formula for the calculation (p. 118) should not include the Figure 10 as denominator and the next sentence should read 'One CPC unit is equivalent to 1 mg of CS' and not 'equivalent to the absorbance given by a solution containing 10 mg CS per litre'.

The error arose because the original description of the method (*J. clin. Path.*, **22**, 379, 1969) stated that 'one unit is equivalent to the optical density of a 1 mg per 100 ml solution of chondroitin sulphate'. Conversion of this to the SI unit of volume led to the statement that one unit is equivalent to the absorbance given by a solution containing 10 mg of CS per litre and hence the tenfold error. The unit of volume in the original method is quite irrelevant and hence the conversion was a conceptual error which it took myself and several colleagues a considerable time to recognize. In common with current clinical laboratory practice we all blamed SI units! In spite of the error, the normal range given in table I is correct.

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Book reviews

The Musculoskeletal System. Edited by Frank C. Wilson. (Pp. xiii + 259; illustrated; £12.25.) Philadelphia: Lippincott. 1975.

This book is concerned with the bones, joints, and muscles of the body together with their associated structures. Its virtue lies in its bringing together in an accessible and readable form the important aspects of their embryology, anatomy, histology, and physiology together with relevant pathological changes and selected clinical features. The wide variety of material is covered in condensed form, assisted by diagrams which are generally simple and helpful. The text is directed to the 'learner' (and all of us are learners in various fields) though recent advances have not been neglected. Pathological processes in bone, joints, and muscle are reasonably well though briefly covered at the level intended, and the last section deals with trauma, especially healing. The book could be helpful to those in training, including young pathologists, and also to those not-so-young who want to revise relatively painlessly the basic information provided. Whether they would be prepared to pay the price asked is another matter.

S. SEVITT

The Immune System. Edited by M. J. Hobart and Ian McConnell. (Pp. xxiii + 357; illustrated, £5.00) Oxford: Blackwell Scientific Publications. 1975.

This multi-author book is based on the course in advanced immunology given at the Royal Postgraduate Medical School, edited so as to be, in effect, a complete text-book of immunology. It is extremely up to date, and all the contributions are excellent, the emphasis being whenever possible on the genetic, biochemical and cellular basis for immunological phenomena. The style is light and easy, but there is no pandering to the beginner, who should first master Roitt's *Essential Immunology*, while for those interested in the application of modern immunology to disease, it prepares the ground for Gell, Coombs, and Lachman's *Clinical Aspects of Immunology*. With three such books the student of immunology is now handsomely catered for. The present volume is well produced and laid out with copious

diagrams and critically selected references, and by current standards it is a bargain at £5.00. It deserves to be a great success.

J. H. L. PLAYFAIR

Gastrointestinal and Hepatic Pathology Decennial 1966-1975. Edited by Sheldon C. Sommers. (Pp. x + 425; illustrated; £14.75) Hemel Hempstead: Prentice Hall International. 1975.

This represents one of seven volumes of *Pathology Annual 1975*, in which selected articles from the previous nine single annual volumes have been published by organ system. In addition, authors were invited to prepare addenda updating their contribution to late 1974. The publishers justify this on the basis that several volumes were out of print.

It is difficult to show much enthusiasm for this approach. Some of the original articles were first published so recently as not to require updating. In effect some 25 pages of "updating" (including illustrations) are included, together with 171 new references. The "update" on extra-nodal malignant lymphomas and pseudo-lymphomas is already being rapidly superseded by the changes in classification of lymphoid neoplasms; the update of Schistosomiasis, covering the period from 1966 onwards, scarcely does justice to the very large volume of literature which has been published in this time. There is a good and updated account of primary upper small intestinal lymphoma, and the same authors' (Haghighi and Nasr) review of tropical sprue is authoritative. The juxtaposition of articles by McGovern and Morson on large bowel inflammatory disease provide an excellent review of this topic and provide most helpful guidelines for the interpretation of biopsy material. The articles on gastric carcinoma (Mulligan) and biliary cirrhosis (MacMahon) represent highly personal viewpoints on the part of the authors, to which many would not subscribe.

Republication in this way probably represents a considerable financial saving as far as the publishers are concerned. The volume might be of value to specialists in the field, in that it brings together a selection of reviews distributed in the other nine volumes. In view of the very little additional information provided generally, individual buyers should not rush to purchase; and even libraries, who may have all of the previous volumes, might consider carefully whether they

wish to spend £14.75 for an additional 25 pages of addenda!

R. N. M. MACSWEEN

Oncogenesis and Herpesviruses II. Part 1. Edited by G. de The, M. A. Epstein, and H. zur Hausen. (Pp. 511; Sw fr. 100.) IARC Scientific Publications. 1975.

Oncogenesis and Herpesviruses II. Part 2. Edited by G. de The, M. A. Epstein, and H. zur Hausen. (Pp. 403; Sw. fr. 80.) IARC Scientific Publications. 1975.

Nine hundred crammed pages reflect the enormous interest in this field. Part 1 deals with molecular biology and biochemistry and relates more to herpesviruses as a group than to their oncogenicity. Each section represents a session of a meeting in Nuremberg in October 1974, and the review papers introducing each section are excellent, as one would expect from authors such as zur Hausen, Klein, Hampar, Pope, and Schaffer. The detailed papers deal with structure, biochemistry, integration, expression of virus message, virus antigens, and *in vitro* transformation, and for those not expert in molecular biology this part may be heavy going. However, Part 2, which deals with epidemiology, transformation *in vivo*, host responses, and vaccination, is for those with clinical interests an excellent overview. Consideration of the well-documented Marek's disease, alongside the ill-understood association between herpesviruses and human neoplasia, is illuminating. The authors include many of those making major contributions in this field, and both parts are warmly recommended.

D. G. HARNDEN

Blood Groups in Man, 6th edition. By R. R. Race and Ruth Sanger. (Pp. xix + 659; illustrated; £15.00) Oxford, London, Edinburgh, Melbourne: Blackwell Scientific Publications. 1975.

In the foreword to the first edition in 1950, Fisher wrote that there was need 'for an exact and comprehensive text book' on the human blood groups. Garnished with humour, this has now been available for 25 years. In the preface to the sixth edition the writers declare that this is the last, because 'the subject has grown to need more than our two pencils'. Many of the seeds from which the knowledge has grown have been sown by the authors. Readers are invited not to ignore, or

commit to memory, the finer details of the antigenic niceties, but to look up the details as required—good advice, as the serological complexities of some of the systems are daunting for the uninitiated even when presented in such a lucid style. It is unfortunate that the chapter on the Rh groups disappoints a little; the section on LW, the true rhesus antigen, lacks the characteristic clarity. Also one could have wished for a powerful final sally from the authors about their own views of the fundamental aspects of the system. To criticize is to cavil—this book will become a classic.

S. D. LAWRENCE