



Fig. 1 Erythrocyte acetylcholinesterase activity in controls and patients with Hirschsprung's disease.

Fig. 2 Erythrocyte acetylcholinesterase activity in controls and patients with Hirschsprung's disease as a function of age. Controls: 0-1 month v 3-36 months, $p = <0.001$; 0-1 month v 1-3 months, $p = <0.01$; 1-3 months v 3-36 months, $p = NS$.

of the control patients under 1 month old had gastrointestinal problems, predominantly congenital in origin. Although many were receiving intravenous infusions and drug treatment at the time of blood collection, we thought that they would constitute a valid control group.

Histochemical staining of the aganglionic bowel in Hirschsprung's disease shows increased amounts of acetylcholinesterase.¹ Boston² showed increased activities of both serum and erythrocyte acetylcholinesterase in patients, although there was overlap with the normal range. She³ also showed

increased erythrocyte acetylcholinesterase activity in Hirschsprung's disease, but without increased serum acetylcholinesterase activity. Okasura⁴ found normal erythrocyte acetylcholinesterase activity but increased serum acetylcholinesterase activity. In this study, there was no significant difference between erythrocyte acetylcholinesterase activity in controls and patients with Hirschsprung's disease.

Seven of the patients with Hirschsprung's disease had undergone a modified Duhamel procedure, in which part of the aganglionic bowel is resected, but 15-20 cm of aganglionic recto-sigmoid is left. Boston² found that erythrocyte acetylcholinesterase activity was still raised in three patients after resection of about half of the aganglionic bowel, although She³ has suggested that the degree of increase of erythrocyte acetylcholinesterase activity is related to the length of aganglionic segment present. Okasura found that erythrocyte acetylcholinesterase and serum acetylcholinesterase activities were unchanged following Duhamel's procedure. It therefore seems unlikely that resection of part of

the aganglionic segment would account for the normal erythrocyte acetylcholinesterase activity in Hirschsprung's disease found in this study.

We have been unable to show that measurement of erythrocyte acetylcholinesterase activity in patients with Hirschsprung's disease under 3 years old would assist in the diagnosis.

FJ BAMFORTH

I KIM

DM ISHERWOOD

J LISTER

Departments of Biochemistry
and Paediatric Surgery,
Alder Hey Children's Hospital,
Liverpool

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Book reviews

Oral Microbiology. 2nd ed. Aspects of Microbiology 1. (Pp 120; paperback £5.50.) Van Nostrand Reinhold (UK) Co. Ltd. 1984.

Since an increasing number of hospitalised patients develop severe oral problems due to new forms of treatment, it is important that bacteriologists have some knowledge of oral microbiology. This concise and inexpensive book is an excellent introduction to the subject. The six main chapters contain accurate and up to date information written in a clear style and well illustrated by figures, tables, and line diagrams which, with a few exceptions, enhance the

text. In a number of sections substantial rewriting has been carried out since the 1st edition eg microbial adhesion and the biochemical properties of dental plaque. Although the coverage of oral infections other than caries and periodontal disease was inadequate in the previous edition, this deficiency has been much improved in the present volume. Whilst the main readership of this book will be dental students, I feel sure that many workers in the field of human microbiology will find this a useful and fascinating volume.

T WALLACE MACFARLANE

Topley and Wilson's Principles of Bacteriology, Virology, and Immunity. 7th ed. Vol 3. Bacterial Diseases. Ed GR Smith. (Pp 610; £65.) Vol 4. Virology. Ed F Brown and Sir Graham Wilson (Pp 584; £65.) Edward Arnold. 1984.

These two volumes complete publication of the seventh edition of this comprehensive and remarkable book. (For review of volumes 1 & 2, published in 1983, see *J Clin Path* 1984, Vol. 7, no 6, p 716.) Volume 3 deals with the infectious diseases—bacterial, mycoplasmal, chlamydial, and rickettsial that affect man and animals. It is the practical application of the detailed systematic bacteriology of volume 2. Special emphasis is placed on epidemiology, diagnosis, prophylaxis, and control. Of the four volumes which make up the seventh edition, this volume (no 3) is likely to be the one most often consulted by those who work in diagnostic laboratories in human and veterinary medical practice. Compared with previous editions, sections on mycoplasmal, chlamydial, bacteroides, pasteurilla, and campylobacter infections have been extensively re-written in the light of much new work and in view of the emergence of greater veterinary importance than was reflected in earlier editions. Particular mention is made by the editor of information on "new" diseases such as enteritis in man due to *Yersinia enterocolitica*, *Clostridium difficile*, and *Campylobacter*; on Legionnaire's disease; on infant botulism; and on contagious equine metritis. Mention might also be made of a brief reference to "fifth" disease (p517) probably due to a parvovirus. Acquired immuno-deficiency syndrome (AIDS) was dealt with in Vol 1 (p 410). Hospital-acquired infections not surprisingly are given a chapter of their own in which the importance of opportunist infec-

tions in patients with increased susceptibility is well brought out. Anaerobic, non-spore, gram-negative bacteria, and food-borne diseases receive careful attention; and there is a welcome much-needed chapter on epidemiology.

As in previous editions due regard has been paid to the more important historical aspects of infectious disease. In this connection it was particularly pleasing to find that a place has still been reserved for a description of two of the truly classic, beautifully simple, even amusing experiments by which the British Plague Commission succeeded in persuading their sceptical critics in Bombay that plague was indeed conveyed to man from rat-infested houses by the escape of rat fleas from dead and dying animals.

Volume 4 on virology ventures a bold approach to the subject starting with the statement that the single most important event in virology in the past 30 years was the discovery that the RNA extracted from tobacco mosaic virus was itself infectious. Added to recent previous discoveries on DNA—host cell relationships and on the structure of DNA, the RNA work put virology "on the crest of a wave on which it is still riding". Classification of viruses is now firmly based on the chemical properties of the viruses; and our understanding of the way in which the agents multiply rests on fundamental chemical knowledge. The two chapters on the genetics and on the pathogenicity of viruses added to the immediately preceding one on virus replication will surely open new understandings among most general readers who are not specialists in this exciting field. It is interesting—indeed it is nearly incredible, as well as astonishing and encouraging, to those who during the past 30 years have actually seen cases of smallpox, yellow fever, and poliomyelitis to realise that these dreadful diseases are now either eradicated or on the way out. This has not happened without great effort. Truly the expert epidemiologists, immunologists, and field workers who led these successful campaigns, and saw them to good conclusions, have well served their day and generation. In their time they faced criticism, scepticism, and real discomforts and dangers; and not a few gave their lives. The prospects of further successes that must lie ahead—perhaps in the near future—surely provide the impetus required to translate into practical applications the wealth of fundamental biology contained in this particular volume, which must indeed be a revelation of a whole new world to non-

virological general microbiologists.

Taken as a whole the contents of the four volumes of Topley and Wilson must surely place this incredible textbook among the wonders of the scientific world.

JW HOWIE

International Review of Experimental Pathology. Vols 24, 25 and 26. Ed GW Richter and MA Epstein. (Vol 24; Pp 389; £35.); (Vol 25; Pp 391; £41.); (Vol 26; Pp 283; £50.50.) Academic Press. 1983 and 1984.

These well established volumes are eagerly awaited, and these three volumes maintain the standard. The format remains unchanged, each volume consisting of an in-depth review of often a very specialised aspect of experimental pathology. Many of the reviews start with a clinical definition of a condition with the essential pathological changes, then progress to the pathophysiology and various experimental models that are available for the further study of such conditions.

These volumes are highly recommended for any active department of experimental pathology. For the less academic departments, one would urge selection to ensure that the main topic of interest to the individual would be represented within the appropriate volume. With the ever-increasing rise in toxicology, they should be purchased by such departments. Certainly for a PhD or MD candidate in pathology who had the good chance to find their subject reviewed, they would be invaluable.

Although good value, the three volumes may prove difficult for the budget of some departments. One is left with the feeling that the publishers would do well to sell reprints of these individual classical reviews.

DA WILLOUGHBY

Bone Marrow Transplantation. Ed RS Weiner, E Hackel, and C Schiffer. Pp 160; \$25.) American Association of Blood Banks. 1983.

Bone marrow transplantation (BMT) is increasingly being used as a treatment modality for patients with aplastic anaemia and haematological malignancies. The aim of this book was to review those aspects of BMT relevant to the blood bank. In fact, it covers a wider spectrum of subjects somewhat superficially. However, included are an excellent review of the immunogenetics of clinical BMT and reviews on methods