Medical students' views on necropsies

I read the article by Benbow with interest.¹ In my hospital we try to anticipate some of the problems likely to arise in this area by circulating an information sheet on necropsies to all medical students. This has been so useful that it has been adapted for a wide range of people who may need to view a necropsy as part of their training—from student nurses and doctors, hospital administrators, paramedical staff (ambulance personnel), and even the new members of the hospital chaplaincy, who may be asked to counsel families from whom permission for necropsy has been requested.

A copy of the information sheet is available on request from the address below.

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1 Benbow EW. Medical students' views on necropsies. *J Clin Pathol* 1990;43:969–76.

AgNOR staining in normal bone marrow cells

We were pleased to read that in their article Nikicicz and Norback emphasised the importance of the differential morphological expression of AgNORs using their own classification.¹ Yet their system, with eight types of structures and five types of configurations, seems very complicated to us. For a statistical evaluation a great number of data would be necessary. Moreover, we think that some AgNOR structures could be erroneously classified because of an inclination of their main axis in relation to the surface of the slide. That could falsely increase the number of regular blebs and reduce the number of irregular blebs. A complex classification system could also raise the intra- and interobserver variability.

We have also recently studied AgNORs in normal bone marrow cells² differentiating only the following groups: clusters of NORs within a matrix; small dots within the nucleoplasm; and rounded argyrophilic structures corresponding to a small nucleolus.³ The intra- and interobserver variability were less than 10%. A characteristic pattern of clusters or dots, or both, could be seen in each cell type. Clusters were only present in proliferating cells. The number of dots was lowest in the most immature cells, increased initially with maturation, but decreased as the final maturation to the end stage cell took place. Thus our quantitative analysis suggests a difference between dots and clusters also on a physiological level.

Hansen and Østergård proposed another classification system that is principally based on the differentiation in dots and clusters.⁴ Interestingly, it was noted that dots predominated in hyperplastic prostatic tissue; the subtypes of clusters (with one exception) were only observed in intraepithelial neoplasia and carcinoma of the prostate.

In conclusion, we feel that the validity of a morphological classification system should be measured by its physiological or pathophysiological importance.

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- 1 Nikicicz EP, Norback DH. Argyrophilic nucleolar organiser region (AgNOR) staining in normal bone marrow cells. *J Clin Pathol* 1990;43:723–7.
- 2 Grotto HZW, Lorand-Metze I, Metze K. Nucleolar organizer regions in normal hematopoiesis: relationship to cellular proliferation and maturation. *Nouv Rev Hematol* (in press).
- 3 Crocker J, Boldy DAR, Egan MJ. How should we count AgNORs? Proposals for a standardized approach. *J Pathol* 1989;158:185–8.
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Drs Nikicicz and Norback comment:

We are pleased that our article has stimulated interest and thank Drs Metze and Lorand-Metze for their comments.

Our system of AgNOR structures and the non-AgNOR staining features allows recognition of a wide spectrum of patterns and characterises all types of normal bone marrow cells at various levels of maturation.

In the study we used air-dried smears of bone marrow aspirates. This preparation flattens the cells on the coverslip, allowing maximum spreading and good bidimensional assessment of cellular features. The structural variability due to orientation of the cell is therefore minimal compared to the variability in preparations of immediately fixed cells or histological sections. The systems of describing AgNORs cited by Drs Metze and Lorand-Metze apply to histological sections and take into account the smaller AgNOR subunits within larger AgNOR clusters or structures. In our preparations of whole cells, subunits were not well visualised. Instead, we incorporated the shape of AgNOR structures into a system which also uses size and number of the structures.

We agree that further studies of AgNORs of bone marrow cells in various physiological and pathological conditions should be the next step. The completion of these studies may indeed allow modifications of the system to describe such cells.

BOOK REVIEWS

Clinical Gynaecological Oncology. 2nd ed. Ed JH Shephard, JM Monaghan. (Pp 479; £59.50.) Blackwells. 1990. ISBN 0-632-02733-9.

This is the second edition of a book that has become a standard text for clinicians engaged in this gynaecological subspecialty. It now has 16 contributors, all of whom are from the United Kingdom, and provides in its 19 chapters a useful, comprehensive, and up to date review of this rapidly developing subject from a British viewpoint. Topics covered include the epidemiology and aetiology of cancers of the female genital tract; pathology

and management of CIN, VAIN, and VIN; pathology and management of cancer of the cervix, uterine corpus, vulva, fallopian tube and ovary; trophoblastic disease; malignant disease of the genital organs in childhood; cancer complicating pregnancy; radiotherapy of the cervix, uterine corpus and ovary; nutritional support in gynaecological cancer and care of the terminally ill.

The book is well produced and illustrated, easy to read, and each chapter includes a well chosen and generous list of references to published work. Although it is intended primarily for gynaecologists, the emphasis placed throughout on the multidisciplinary approach to patient diagnosis and management should serve to widen its appeal to include all clinicians involved in gynaecological oncology. I expect the book to become essential reading for the MRCOG examination and would warmly recommend it to all pathologists with an interest in this field.

AJ ROBERTSON

Management of Blood Transfusion Services. Ed SR Hollan, W Wagstaff, J Leikola, F Lothe. (Pp 229; Sw.fr 41.) World Health Organisation. 1990. ISBN 92 4 154406 6

The arrival of this book reflects the recognition by the WHO that blood transfusion has an essential role in developing health care services. This led to a resolve to give assistance to countries to establish their own transfusion services along well tried and secure principles.

This book, comprising 18 chapters contributed by an international panel of experts, serves admirably in this aim. The coverage is well planned with little evidence of overlap or conflict of approach in the chapters. It is clear and well written, comprehensively covering all aspects from the design and planning stages through to choice and commissioning of equipment, establishing operating procedures, recruitment and management of staff, financial management and quality control. Further chapters cover donor recruitment, projection of national blood needs, transmissible infections and educational programmes. A helpful section describes the role of the various international organisations concerned with transfusion.

A very minor criticism relates to a potential confusion in the use of quality control to embrace what is currently covered by the more comprehensive term quality assurance. In vivo recovery measurements are recommended as an important aspect of quality control of blood components—a statement which is theoretically true but which in practice is undermined by the variability of individual clinical settings. In practice, quality assurance of the preparative procedure and appropriate end product laboratory testing are to be emphasised. The book is primarily directed towards helping the establishment of a modern transfusion service from more humble beginnings and I know of no other single source that would be as useful. The book would also be valuable reading for specialists already working in highly developed sophisticated services as it covers many rather basic principles which could easily be overlooked. It is only to be expected that much of the advice is by way of illustration and will not correspond exactly with particular local requirements laid down

by various national services. The book is to be recommended to those with senior responsibilities for the development of transfusion services and for trainees everywhere.

JAF NAPIER

Pathology of the Uterine Cervix, Vagina, and Vulva. Vol 21. Major Problems in Pathology. YS Fu, JW Reagan. (Pp 397; £43.) WB Saunders Company. 1989. ISBN 0-7216-7493-3.

With the increase in colposcopy clinics that has occurred over the past decade, most histopathology departments are dealing with a greater number of specimens from the female lower genital tract. A manageable sized monograph dealing with this area alone but covering clearly all the variations of normal appearances and aspects of disease that are likely to be met would therefore be welcome. This book goes a long way to meeting these requirements. The core of the book is composed of chapters on benign and malignant disease of the vulva, vagina, and cervix, with additional chapters on non-epithelial and metastatic tumours, dermatological disease of the vulva, and developmental abnormalities and cysts of the lower genital tract. These are preceded by an account of development, normal anatomy, and normal histology. The first chapter describes how specimens for histological examination should be handled and reported.

The book is profusely illustrated by generally excellent monochrome photomicrographs with a small number of gross photographs and electron micrographs. A few line diagrams are present and, as might be expected from the first author's interest in the field, there are rather more DNA ploidy histograms than might be thought necessary. In view of the close liaison that is essential between the colposcopy clinic and the histopathologist, it is a pity that a rather fuller account of colposcopy is not included. The formation of the transformation zone is dealt with in a perfunctory manner which is inappropriate for a mechanism that is crucial to the genesis of so much cervical pathology. Some confusion may be caused by the use of both the intraepithelial neoplasia and dysplasia/carcinoma *in situ* terminologies in relation to the cervix and vagina. These are, however, very minor criticisms of a book that can be thoroughly recommended.

MC ANDERSON

Holoprosencephaly. An Overview and Atlas of Cases. JR Siebert, MM Cohen, KK Sulik, C-M Shaw, R Lemire. (Pp 420; \$190.) John Wiley & Sons Inc. 1990. ISBN 0-471-56745-0.

The recent decline in incidence of neural tube defects has brought to prominence other less common brain malformations. Holoprosencephaly is a malformation complex that results from aberrant cleavage of the embryonic forebrain. An associated spectrum of facial deformity makes it unique among brain anomalies.

This is a multi-author work which impinges on a variety of disciplines. The information, which covers a spectrum of severity, is com-

prehensive and well presented. The pages are replete with photographs, diagrams, and tables. One whole chapter is an atlas portraying associated facial defects.

The condition is rare and there is a related high early mortality. As such, the book is unlikely to have wide appeal, though undoubtedly many of the chapters would capture the interest of the enthusiast from a range of disciplines.

S VARIEND

Cellular Immunity and Immunotherapy of Cancer. UCLA Symposia on Molecular and Cellular Biology. New Series. Vol 135. Ed MT Lotze, OJ Finn. (Pp 432; \$125.00.) John Wiley & Sons Inc. 1990. ISBN 0-471-56873-2.

This volume in the UCLA Symposia series on molecular and cellular biology includes all the papers presented at a colloquium held at Park City, Utah, in January/February 1990. One hundred and eighty one researchers contributed to the 51 papers published in this volume; and the papers include contributions from many of the most prestigious universities and institutes, and presented by authors of international standing in the field.

The contents of the volume cover the latest and most important developments in immunology which have influenced both our perception of the immune changes induced by malignant disease, the implication of these discoveries for understanding the immunology of cancer, and the opportunities offered for the treatment of these diseases. Many papers are referenced to 1989.

The subject matter is divided into eight sections. Eight papers deal with T cell recognition of antigens and the T cell receptor, and include contributions describing our knowledge and understanding of antigens recognised by T cells, the origin of T cells, T cell receptors, descriptions of adhesion molecules, CD₄, CD₈ and T cell subsets, and the mechanisms of adhesion of neoplastic cells to the endothelial. A second section of five papers deals with T cell growth and expansion of specific cells, while a further section of four papers deals with natural killer cells. Six contributions are related to autoimmunity and alloimmunity which collectively describe and comment on the considerable advances made in understanding these phenomena. Three sections of 15 separate contributions deal with immunotherapy in animal models and tumour specific T cells; 12 papers deal with the immunological problems relating to melanoma in animals and man, and clinical trials of immunotherapy in cancer patients: these chapters include some of the most recent and interesting data on cancer immunity, perceptions on use of anti-idiotypic antibody, the antigenic nature of tumours, IL-2 treatment of melanoma and the possible use of tumour infiltrating lymphocytes in future treatment. The editors contribute a summary of the subject and the proceedings of the symposium, but the papers seem to be exact replications of the contributions of the authors without overall editing. This produces a mixed style of preparation, but the individual papers are clearly and concisely written, referenced to the last practical time and informative.

This volume contains both of the results of research and the thinking of an internationally recognised group of authors on the

impact of recent immunological discoveries for the immunotherapy of cancer. For all researchers interested in obtaining an up-to-date and comprehensive account of cellular immunity in cancer, this book is both interesting and important for both the theoretical and practical content; for researchers specifically involved in problems of immunotherapy in cancer, the book is surely essential reading and should be on the private and departmental book shelves of all serious workers.

CW POTTER

Acute Myelogenous Leukemia: Progress and Controversies. UCLA Symposia on Molecular and Cellular Biology. New Series. Vol 134. Ed RP Gale. (Pp 422; \$85.00.) John Wiley & Sons Inc. 1990. ISBN 0-471-56872-4.

An impressive group of contributors from North America, Europe, and Japan reviewed the aetiology, molecular and cell biology, clinical aspects and treatment of acute myelogenous leukaemia. Atomic irradiation at doses greater than 1 Gy causes acute myeloid leukaemia in younger people and there is a shorter latency than chronic ML. Mammalian cells seem to be sensitive even to low dose electromagnetic fields. A review on Fanconi's anaemia and Bloom's syndrome shows that endogenous factors alone are sufficient to produce acute myeloid leukaemia. McCulloch and others review the interaction between acute myeloid leukaemia blast cells and normal cells, chemotherapy and growth factors. This is followed by a clear explanation of how to identify clonality in differentiated leukaemia. Proto-oncogenes and autocrine production of growth factors may both be a cause or an effect of acute myeloid leukaemia. CD34 stem cell acute myeloid leukaemia is identified as carrying a poor prognosis.

The remission rate for AML in both children and young adults is high. The remainder of the book deals with how to increase the durability of remission (usually less than a year) and five year leukaemia free survival (leukaemia free survival usually at the most 40%). Etoposide seemed to be of confirmed value; maintenance chemotherapy was not. Relapsed disease after six months remission still responded to the initial induction treatment.

Allogeneic transplantation in first complete remission produces a 50% five year leukaemia free survival. Graft versus leukaemia effect accounts for low relapse rate and techniques for its promotion were suggested. Autotransplants produce a 40-50% five year leukaemia free survival in first remission compared with 40% for patients in the MRC IX trial treated by conventional chemotherapy and censored to exclude relapses before six months. Marrow purging by chemotherapy, monoclonals, and long term marrow culture show marginal improvements in survival but prolonged periods of thrombocytopenia. GM-CSF seem safe to use after ablative chemotherapy in acute myeloid leukaemia but may only reduce inpatient stay by five days. Its role in recruiting blasts prior to induction chemotherapy requires a large multicentre trial.

An overall good summary of progress to the year 1990.

RM HUTCHINSON