Quality assurance and medical audit in histopathology

In the Bulletin of the Royal College of Pathologists, there is a report under this heading that "Council has given consideration to the means for encouraging quality assurance and medical audit in histopathology. It recommends that histopathologists should form 'slide-clubs' at which material of interest and importance should form slide-clubs certainly lacks assurance but in no way is shown to be invited to participate on a regular basis."

Is this really the sum of what Council has achieved in its discussion of this important issue? The suggestion that histopathologists should form slide-clubs certainly lacks originality, but in any case the way in which these are advised to function can in no way be regarded as a form of quality assurance or medical audit. What constitutes medical audit in histopathology is perhaps debatable but there is a wide range of options available for both macroscopic and microscopic work (see Bibliography).

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References


Letters to the Editor

Confusion of terms "birefringence" and "optical activity"

There is a tendency for authors of histopathological studies to use the term "birefringence" when "optical activity" is intended. The first term means double refraction or having two refractive indices, which is shown by passing a beam of light through a crystalline solid and observing that the beam is split into two rays. Optical activity is a different property which applies to some solids and liquids and indicates that a beam of polarised light is rotated when passing through them. This is the phenomenon studied in tissue sections when examining for foreign bodies, crystals, amyloid etc.

The apparent confusion between these two properties of matter possibly arises because each of the two rays issuing from a birefringent crystal—for example, a Nicol prism—consists of polarised light and may be used as a source of such light.

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Platelet storage in PL 146, CLX and Biotest 733822 Plastics

The Oxford Transfusion Centre recently confirmed the superiority of the PL 732 (Travenol Laboratories Ltd) polyolefin packs over the conventional PL 146 packs for platelet storage over five days. Since the PL 732 packs are now no longer available in the UK we have now tested two other packs designed for extended platelet storage; CLX from Cutter Ltd and 733822 a new pack from Biotest-Folex Ltd.

Whole blood (450 ml) was collected from 31 healthy donors who had taken no drugs during the previous seven days. All donations were taken into CPD anticoagulant, 7 into Travenol PL 146 packs serving as controls, 12 into Biotest-Folex 733822 packs and 12 into Cutter CLX packs. Each platelet concentrate

Effect of sodium azide on EIA (Corzyme)

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Letters to the Editor

was of about 40 g weight and was stored at 22°C on a vertical rotator at 5 rpm. On the day of donation (day 0) at 72 h (day 3) and at 120 h (day 5), all concentrates were tested for pH and recovery in an hypotonic stress test (HST), as previously described.1

Concentrates in PL 146 had a pH which stayed about or below 7-1 and their HST recoveries fell to only 46% by day 3 and 21% by day 5. The pH of concentrates in both the 733822 and CLX packs rose slightly by days 3 and 5, though the mean values remained less than 7-3. Mean HST recoveries of concentrates in both types of pack on day 3 exceeded the 100% day 0 base line and showed little further change thereafter.

The limited in vitro results demonstrate that there is no significant difference between the performance of platelet concentrates in the Biostat 733822 and Cutter CLX packs. Both packs appear to offer effective platelet storage for at least five days. While storage beyond that time was not studied the results with both the 733822 and CLX packs were comparable to those with the polyolefin PL 732 packs which have been considered to maintain a clinically useful product for up to 7 days.2

This study has confirmed others 3 4 which have mentioned but paid relatively little attention to the wide range of platelet yields and in vitro performances of concentrates prepared from supposedly normal healthy donors. Platelets in a minority of concentrates—about 10%—behave atypically, faring much worse or indeed sometimes better than anticipated. Some contributory factors are well recognised and standardised. However others are not always considered such as undisclosed donor drug-taking especially salicylates,5 difficult venesection, absolute platelet numbers in each pack, and degree of white cell contamination.6 It is also possible that inherent platelet survival under current storage conditions may vary from donor to donor.4

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This is the second volume in a series of review articles on a multiplicity of topics in different disciplines of pathology. These range from chromosomal analysis to the culture of anaerobic bacteria, in addition to urine chemistry, therapeutic drug monitoring, and articles on gel electrophoresis, viral serology, and monoclonal antibody production.

In the main the reviews are well written and reflect well on the expertise of the individual authors. With the continuing specialisation and separation of the individual disciplines of pathology in the United Kingdom it is doubtful if this spread of knowledge of all disciplines will tempt many practising pathologists to purchase this volume. This would be a pity, for many important pathological topics are covered in an excellent and informative way. Perhaps an appeal to the authors to produce future volumes for each of the individual disciplines would not be untimely. The day of the generalist pathologist has passed and with the advances in each of the disciplines, future undisciplinary volumes might be more appreciated.

References


Following a publication with the same title in 1971, this book is an attempt to give an up-date on the bacteriology and diagnosis of bacteraemia. The first chapter compares the organisms found in blood cultures over three decades which show little major change except for an increased incidence of anaerobes and of mixed cultures. There are three chapters on the lysis centrifugation method in which intracellular bacteria are released from polymorphs by lysis and concentrated by centrifugation. Further chapters discuss problems associated with the detection of anaerobes by the Bactec system, and describe in detail the results of a questionnaire on blood culture systems in 40 hospitals. It is noteworthy that most American hospitals continue to rely on the traditional broth culture methods. Finally, there are useful chapters on bacteraemia in the compromised host and on the clinician’s viewpoint. The application of rapid methods of detecting bacterial growth to blood cultures is not discussed and there is no guidance as to possible future trends. There is new work reported on the lysis centrifugation technique but elsewhere the information given is rather skimpy.

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Book reviews


Those of her friends who enjoyed Volume I of the series in Joint Disease edited by Alice Maroudas, in collaboration with John Holborow, can now benefit from their liberal policy that allows K Brown to closely analyse lymphocytes and polymorphs in Rheumatoid Arthritis (39 pages), Charlesworth et al to discuss Lymphocytotoxic Antibodies (24 pages), Helen Beard to write elegantly of Autoimmunity to Collagen (13 pages), Woessner and Howell to review Cartilage Hydrolytic Enzymes (33 pages), Levick to produce a unique discussion of Synovial Fluid Dynamics (72 pages), and Byers and colleagues to speculate, in enigmatic vein, on Joints. At 9 pages to the £1-00, its a pity that 57 pages are allowed for references—surely a smaller type could have been chosen?—but there are few interested in contemporary research in the connective tissue that will not relish some part of this new group of essays.
Platelet storage in PL 146, CLX and Biotest 733822 plastics.

V Tringham and C C Entwistle

*J Clin Pathol* 1983 36: 1202-1203
doi: 10.1136/jcp.36.10.1202-c

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