the interlaboratory variation includes both random variation and systematic differences, the latter is by far the predominating factor.[3 4] The origin of the systematic differences is to be found in the test procedures used by the individual laboratories. The test procedures include the techniques for determination of the clotting end point. It has been shown that coagulometers influence the PT ratio and hence the ISI. The ISI recommended by the manufacturer may not apply to all instruments used by the NEQAS participants. Although laboratories used the same thromboplastin, they used different techniques for determining the PT ratio (PR). Consequently, the CV(PR) is not only determined by the reagent, but also by the techniques and the individual laboratories using them. In conclusion, the difference in CV(INR) obtained by Taberner and colleagues should not be attributed to the different reagents alone, but may also be explained in part by different test procedures.

In my opinion, a fair comparison of thromboplastin reagents can be performed only if the reagents are tested by the same laboratories using the same procedures.

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References

1 Tabener DA, Poller L, Thomson JM, *et al.* Effect of international sensitivity index (ISI) of thromboplastins on provision of international normalised ratios (INR). *J Clin Pathol* 1989;**42**:92–6.
2 Loeliger EA, Van den Besselaar AMHP, Lewis SM. Reliability and clinical impact of the normalization of the prothrombin times in oral anticoagulant control. *Thromb Haemostas* 1985;**53**:148–54.
3 Goguel A, Houbouyan LL, Roussi JH. Coagulation quality control surveys in France. *Scand J Haematol* 1980;**25**(suppl 37): 150–2.
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Dr Taberner comments:

Dr van den Besselaar states that the formula: CV(INR) = CV(PR) × ISI did not take into account the CV(ISI). We agree, but the report showed that using the cumulative data from the UK NEQAS exercises, the simple formula successfully predicted the difference between the CV(PR) and CV(INR). There is therefore no need to take into account the additional component of the CV(ISI). The biological variation between individual anticoagulated patients' results is, however, largely reflected in the PR. The view that systematic differences influence the PT ratio is supported and elaborated in the final paragraph of the paper as follows:

"Overall precision in PT testing with a reagent is affected by factors other than the ISI. For instance, the stability of the reagent, interbatch variation, and methods of end point detection may have a direct influence."

Nevertheless, the differences between the CV(PR) and CV(INR) seem to be largely explained by the ISI. Therefore, on the present evidence, the ISI must be regarded as an important influence on the precision of the INR. As shown in our accompanying paper, automation may affect the slope of the regression line and hence the ISI.[1] The differences introduced by coagulometers are small in comparison with the effect of the wide range of ISI values for thromboplastins in current use.

Finally, it was not our objective to assess thromboplastin reagents but to elucidate the basic principle of the importance of a low ISI thromboplastin for the precision of the INR. An important factor in the latter, as Dr van den Besselaar suggests, is the precision of the PR on which the INR is based.

Reference

1 Poller L, Thomson JM, Taberner DA. Effect of automation on prothrombin time test in NEQAS surveys. *J Clin Pathol* 1989;**42**: 97–100.

Book reviews

Molecular Basis of Inherited Disease. In Focus. KE Davies, AP Read. (Pp 87; softbound £5.95.) IRL Press. 1988. ISBN 1 85221 073 7.

My suspicions deepen that students of today are brighter than those of two decades or more ago. This slim handbook confidently zips along at a pace which current undergraduates may find a simple jog but which surreptitious mature "students" who are looking for a simple text to help them finally understand all this molecular genetics business will find exhausting. If you do not know what an open reading frame observed during DNA sequencing studies is all about you will trip up on line 8 of page 1. Picking yourself up, there are several stumbles ahead unless the field is at least partly familiar. The PCR technique is described in a diagram; hardly enough unless you understand it already, and in some of the diagrams the contrasting light pink colour of the two-tone scheme is barely visible. To be fair, the jacket indicates that the book is designed to complement course work. As a way of consolidating what someone has already explained in class or extending and updating a simpler introductory review it would be excellent.

JS LILLEYMAN

Making Monoclonals. DG Newell, BW McBride, SA Clark. (Pp 93; paperback £10 (inc postage.)) PHLS Supplies, 61 Colindale Avenue, London NW9 5DF. 1988. ISBN 0-901144-23-1.

This book sets out to provide a detailed guide to the production of monoclonal antibodies. It will appeal to the laboratory worker with little experience in this area. For such an individual, the text could prove to be indispensable as it covers many of the pitfalls that might be encountered in antibody production. Whilst there is obviously no substitute for being taught a laboratory technique "at the bench", books such as this can go a long way to guiding an inexperienced person into the field.

Every aspect of antibody production is covered and the authors are to be complemented on their thorough approach to the subject. The text is well written and the layout of the book makes it easy to obtain information relating to different aspects of antibody production. A very good buy for those wishing to set up a hybridoma facility who do not have access to groups that can supply the practical experience detailed in the book.

JT KEMSHEAD

The Kidney in Plasma Cell Dyscrasias. Eds. L Minetti, G D'Amico, C Ponticelli. (Pp 304; £60·95.) Kluwer Academic Publishers Group. 1988. ISBN 0 89838 385 4.

This book consists of a collection of short and concise papers prepared by many of the leading workers in myeloma, amyloid, and