Cross-linked fibrin degradation products as a predictor of pulmonary embolism

A simple blood test that could exclude pulmonary thromboembolism would have obvious appeal. Not only would it reduce the number of ventilation and perfusion scans performed, but more importantly it would reduce inappropriate anticoagulation.

Monoclonal antibodies to a neoantigen produced by proteolysis of cross-linked fibrin have been produced. Both an enzyme linked immunosorbent assay and a latex agglutination test are now commercially available and have the potential for detecting intravascular thrombosis. Raised concentrations of cross-linked fibrin degradation products were found in intravascular coagulation which accompanies a wide range of conditions. They are not specific for venous thromboembolism, but a normal concentration might be used to exclude venous thromboembolic disease.

All patients with a suspected diagnosis of pulmonary thromboembolism referred for ventilation perfusion lung scans over a one year period had both XDP and D-dimer tests. Ventilation images were obtained using 40 MBq of a 5μm aerosol preparation of technetium-99m labelled DTPA (diethylene triamine penta-acetic acid) while perfusion images were acquired about 60 minutes later. XDP test selection was based on 75 MBq of technetium-99m labelled macroaggregates of human serum albumin. Cross-linked fibrin degradation products were measured using the Dinertest latex agglutination kit (Porton Products Ltd). Results were classified negative if less than 250 μg/l or positive if more than 250 μg/l.

Of the 115 patients referred, six had either no XDP test or no scan was carried out. Patients with scans with only a medium probability of pulmonary embolism were no more likely to have a negative XDP test than those with a high probability. A possible explanation may be found in individual differences in the fibrinolytic capacity of the pulmonary circulation. Alternatively, the explanation may be that the latex test cannot detect slightly increased concentrations. This may account for the high negative predictive values obtained with the enzyme immunoassay. It may be possible to improve the latex test in this respect.

In conclusion it is considered unsafe to use the latex test for XDP on its own to exclude pulmonary embolism. The high negative predictive value of 84%, however, could prove useful in particular situations and might influence management of patients while a lung scan is awaited.

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BOOK REVIEWS


This paperbach is a compendium of 16 articles which appeared recently in the British Medical Journal and dealt with transfusion medicine. Taken together they form a useful and digestible primer. With 21 authors in 16 chapters on only 62 pages of heavily illustrated text there is variety in chapter quality and some repetition of illustrations and subject matter, occasionally within chapters. Laudable attempts to make the separate articles self-contained. The British journal with plentiful illustrations work less well in the book format. For example, a colour illustration of a theatre scene with the legend "A number of operations do not require blood to be crossmatched" and a colour illustration of six empty cryoprecipitate bags might be deemed superfluous. I would wish, though, that the benefit of the subject of blood procurement and transfusion practice might be read by all house staff and reread by aspiring surgeons and anaesthetists but it may not be so. It will be useful too to transfusion laboratory staff in training in regional centres and hospitals.

J K WOOD


As one would expect from these authors the microphotographs are outstanding and the publishers have done them proud. In some of the previous editions of this series the reproduction has been too small and too blurred, but in this edition the photomicrographs are produced at four or five to the page and the cytology of the cytoplasm and the nucleus, together with reproduction of the colour, is crisp and clear. Book thanks to their previous one published in 1957 by another publisher, Cytology of Effusions and Cersebrospinal Fluid (now out of print), that I had been persuaded to use may commercial available on fluids, and for this I am very grateful. It had taken me a long time to update the original book but I think that the delay has been very worthwhile as the present book is yards ahead of its nearest competitor.

The only negative words I have to say about this atlas is that it costs too much. I know that colour printing is expensive but the price of £75 puts it out of the range of individual purchasers and this is a shame. I suggest that if the publishers halved the price they would sell more than twice the number of copies. Being that as it may, no cytopathology department should be without this atlas.

DH MELCHER


The number and variety of books on lymphoproliferative disorders which have appeared in the past decade testify to the current interest in this area and reflect the remarkable progress in our understanding of the immune system resulting from the monoclonal antibody "revolution" and the introduction of DNA analysis.

The latest volume is number 15 in the Immunology and Medicine series and is edited by two experts in this field, each of whom has contributed a chapter. Of the 18 contributors, all but two are from the United Kingdom, and understandably the bulk of the text reflects the British viewpoint. In addition to chapters of practical value in the diagnosis of leukaemia and lymphomas, other topics covered include a consideration of the role of lymphomas, analysis of immunoglobulin changes in lymphoproliferative diseases, and the origin of the Reed-Sternberg cell.

The book is well produced and can be recommended as a useful review of the current position in this rapidly advancing subject.

AG STANSFIELD