CD34 immunoperoxidase staining for the diagnosis of myelodysplastic syndromes and chronic myeloid leukaemia

Horny *et al*[1] recently reported that immunoperoxidase staining of bone marrow biopsy specimens with the CD34/QBEND10 monoclonal antibody can be used to separate the myelodysplastic syndromes RAEB and RAEB-T from the RA and RARS subtypes. This report has now confirmed our previous findings that CD34/QBEND10 is a useful reagent for the study of conventionally processed, paraffin wax embedded bone marrow biopsy specimens.[2] We have recently studied bone marrow biopsy specimens from 58 cases of primary myelodysplastic syndromes addressing the diagnostic value of CD34 staining in these conditions.[3] We found that CD34 immunostaining can help in the detection of the increased number of blasts associated with the RAEB and RAEB-T subtypes. In addition, our study showed that QBEND10 represents a powerful prognostic tool for predicting survival and outcome in myelodysplastic syndromes. In primary RAEB cases median survival was 41 months in those with less than 1% CD34+ cells, and 29 months in those with more than 1% CD34+ cells ($p<0{\cdot}05$).[3] Similar results were obtained in cases of therapy related myelodysplastic syndromes: CD34+ cases had a mean survival of 10 months compared with 43 months for the CD34− cases ($p<0{\cdot}0005$).[4]

The authors also suggest the potential usefulness of CD34 staining for identifying patients in the accelerated phase of chronic myeloid leukaemia. Our recently published study of 59 bone marrow biopsy specimens representing the three phases (stable, accelerated and blastic) of chronic myeloid leukaemia has indeed confirmed the finding of a statistically higher CD34 value in the two aggressive phases of this disease compared with the stable phase.[5]

Taken together, these data and those from Horny *et al*[1] show that QBEND10 is a very useful reagent for the study of routinely processed bone marrow biopsy specimens and may provide useful diagnostic and prognostic information in myelodysplastic syndromes and myeloproliferative disorders. This type of approach may be especially valuable when a paraffin wax embedded specimen is the only material available for immunophenotyping.

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1 Horny HP, Wehrmann M, Schlicker HUH, Eichstaedt A, Clemens MR, Kaiserling E. QBEND10 for the diagnosis of myelodysplastic syndromes in routinely processed bone marrow biopsy specimens. *J Clin Pathol* 1995;**48**:291–4.
2 Soligo D, Delia D, Oriani A, Cattoretti G, Orazi A, Bertolli V, *et al.* Identification of CD34+ cells in normal and pathologic bone marrow biopsies by QBEND10 monoclonal antibody. *Leukemia* 1991;5:1026–30.
3 Soligo D, Oriani A, Annaloro C, Cortelezzi A, Calori R, Pozzoli E, *et al.* CD34 immunohistochemistry of bone marrow biopsies: prognostic significance in primary myelodysplastic syndromes. *Am J Hematol* 1994;**46**:9–17.
4 Orazi A, Cattoretti G, Soligo D, Luksch R, Lambertenghi Deliliers G. Therapy-related myelodysplastic syndromes: FAB classification, bone marrow histology, and immunohistology in the prognostic assessment. *Leukemia* 1993;7:838–47.
5 Orazi A, Neiman RS, Cualing H, Heerema N, John K. CD34 immunostaining of bone marrow biopsy specimens is a reliable way to classify the phases of chronic myeloid leukemia. *Am J Clin Pathol* 1994;**101**:426–8.

Book review

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(The price and availability are occasionally subject to revision by the Publishers.)

Diseases of the Bronchioles. Ed GR Epler. (Pp 462; £132.50.) Raven Press. 1993. ISBN 0-7817-0123-6.

This textbook deals in depth with what is a very highly specialised subject, bronchiolar pathology. The editor is an established expert in pulmonary disease and has asked many experts, particularly clinicians, to contribute to the book. The book provides up to the minute information on what is known about bronchiolar disease. It concentrates on infections, smoking, occupational disease, obliterative bronchiolitis, and bronchiolitis organising pneumonia (BOOP), the last two conditions which in the past have been lumped together but which this book clearly separates and clarifies as being different entities with vastly different prognoses. There are excellent chapters on history, anatomy, imaging, pathology, and the various causes of bronchiolar disease. The clinicians' viewpoint is emphasised. However, the penalty of being a multi-author book is that there is discontinuity and a lot of repetition. The editor should have exercised more control over this aspect of the book which makes it very annoying and boring at times when the same references and observations are made by several authors. While not of general interest I would recommend it to pathologists interested in pulmonary pathology as it deals in great depth with what has been pathologically and clinically a very confusing and poorly illustrated area of lung disease in the past.

M N SHEPPARD

Notices

Texas Society of Pathologists
75 Years Young
presents
Pathology: Past, Present and Future
Diamond Jubilee Celebration
February 1–4 1996
For further information, please contact: Paula Rigling, Texas Society of Pathologists, 401 West 15th Street, Austin, Texas 78701-1680, USA.

Lung pathology course
October 31 to November 3 1995
National Heart and Lung Institute
For further information, please contact: Professor B Corrin, Histopathology, Royal Brompton Hospital, London SW3 6NP (fax: 0171 351 8435).

First Announcement
5th International Congress on Trace Elements in Medicine and Biology
presents
Therapeutic Uses of Trace Elements
February 4–7 1996
Main topics include: Therapeutic forms of trace elements; large epidemiological and intervention studies related to trace elements; trace element supplementation of population groups of differing ages; and trace elements, bone physiology and bone diseases, among others.
For further information, please contact: Madame A Alcaraz, Laboratoire de Biochimie C, CHURG, B.P. 217, F-38043 Grenoble Cedex 9, France (tel: (33) 76 76 54 84; fax: (33) 76 76 56 64).

Postgraduate course
Current concepts in surgical pathology
November 6–10 1995
The Department of Pathology, Massachusetts General Hospital, Harvard Medical School, will present a postgraduate course in Surgical Pathology under the direction of Drs Nancy L Harris, Robert H Young and Eugene J Mark.
This course is designed for pathologists at resident and practitioner levels. It will provide an in-depth review of diagnostic surgical pathology with emphasis on morphologic features, newly recognised entities, and new techniques, presented by the faculty of the Department of Pathology, Massachusetts General Hospital. Instruction will be primarily by lecture, but will also include discussion periods. Each participant will receive a comprehensive course syllabus.
The course has Category 1 accreditation for approximately 35 hours CME credit by the American Medical Association. The fee for the course is $825.00 (£522.00) (residents and fellows $610.00 (£386.00)).
For further information, please contact: Department of Continuing Education, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115, USA (tel: (617) 432-1525).

Correction

Microscopic thymoma and myasthenia gravis (*J Clin Pathol* 1995;**48**:682–683). The authors apologise for the errors which appeared in the Pathological findings section of their report. In the last line of the first paragraph, 272 × 71 mm should read 272 × 71 μm. In the final paragraph, 107 mm (range 41–237 mm) should read 107 μm (range 41–237 μm).