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lymphoblastic leukaemia was suggested in
phoid origin. The possibility of T cell acute
Cytochemical studies confirmed their lym-
morphology suggestive of T cell type.
ferential count showed 92% blasts with
a platelet count of 156

Figure 1 - Non-nucleated basophilic fragments of lymphoblasts. Note that these fragments have a size comparable to that of platelets. Leishman stain; original magnification, ×1000. Note the cytoplasmic blebs being shed off from a blast (insert).

Cytoplastic fragments of leukaemic cells masquerading as platelets in an automated haematology analyser

The accuracy of platelet counts has been a major achievement of automation in haema-
tology laboratories. However, a large array of interfering substances can erroneously increase automated platelet counts. Thrombo-
cytopoietic fragments of leukaemic blasts can be overlooked in the presence of a spurious increase in the platelet count. Therefore, automated parameters require careful inter-
pretation with respect to the clinical profile of the patients, along with blood smear examination.

A 10 year old boy presented with fever and lethargy of two week’s duration. He was pale, and had cervical and axillary lymphadenopa-
thy, with moderate hepatosplenomegaly.

The automated complete blood count carried out on an Advia-60 machine (Bayer, Baroda, India), a three part differential analyser, revealed a haemoglobin of 99 g/litre, a total leucocyte count of 273 × 10^9/litre, and a platelet count of 136 × 10^9/litre. The dif-
ferential count showed 92% blasts with morphology suggestive of T cell type. Cytochemical studies confirmed their lympho-
ид origin. The possibility of T cell acute lymphoblastic leukaemia was suggested in view of the older age of affection, an unusually high white blood cell count, and the characteristic blast morphology. However, the platelet count on the peripheral blood smear was 30 × 10^9/litre, a discrepancy of 126 × 10^9/litre compared with the automated platelet count. No platelet flags were generated. In addition, the blood smear showed many rounded and irregular basophilic anucleate structures (fig 1), with an approxi-
mate size range similar to that of platelets. These were thought to be cytoplastic frag-
ments of circulating blasts responsible for the falsely raised platelet count. A few blasts also showed cytoplastic blebs (fig 1, insert),

References
4 Shattil SJ. A (blood) smear campaign. Blood 2003;101:2453

BOOK REVIEW

Clinical Chemistry. 5th Edition

This well known textbook now appears in its 5th edition with an additional writer. The added colour has helped to produce a very readable book, with well laid out text and useful diagrams. It covers widely the curric-
ulum needs of medical students as well as clinical scientists and other health care professionals. The use of case histories gives the book clinical relevance and the tables provide clear aide memories for exam candi-
dates. One criticism would be that I would like to have seen more detailed descriptions of how to investigate patients with biochem-
ical problems.

Martin Crook

CALENDAR OF EVENTS

Diagnostic Histopathology of Breast Disease
9–13 May 2005, Hammersmith Hospital and Imperial College, London, UK
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