Letters to the Editor

Weibel-Palade bodies in Kaposi's sarcoma cells

Russell Jones *et al* recently reported immunohistochemical findings which favour the hypothesis that Kaposi's sarcoma cells are derived from lymphatic endothelium.¹ They stated that "ultrastructural observations of AIDS (acquired immune deficiency syndrome) and non-AIDS related Kaposi's sarcoma have failed to identify Weibel-Palade bodies commonly regarded as a marker for vascular endothelium." Some authors, however, have found such bodies in cells from both classical^{2,3} and AIDS associated Kaposi's sarcoma.⁴

By means of electron microscopy we investigated biopsy material from eight patients with endemic Kaposi's sarcoma and five patients with AIDS associated African Kaposi's sarcoma. The tumour specimens had been excised from patients in Uganda. Blood serum samples from the five patients with AIDS associated Kaposi's sarcoma were positive for antibodies to the human

immunodeficiency virus. We noted occasional Weibel-Palade bodies in cells from both forms of Kaposi's sarcoma after extensive search (figs 1 and 2). The bodies were found only in endothelial cells which formed capillaries (figs 1 and 2). They were not present in spindle shaped tumour cells, which predominantly resembled fibroblasts and myofibroblasts.

The ultrastructure of the angiomatous cells containing Weibel-Palade bodies indicated that they did not represent typical endothelial cells of tumour supplying blood capillaries; instead they were atypical neoplastic cells. They were often seen bulging into the capillary lumen and were characterised by a relatively prominent rough surfaced endoplasmic reticulum, numerous intracytoplasmic microfilaments, and occasional tubuloreticular structures (figs 1 and 2).

We think that the cell of origin of Kaposi's sarcoma with or without AIDS is a primitive mesenchymal cell of the perivascular space. This cell may differentiate into an

endothelial cell or a pericyte of a blood capillary as well as into a spindle shaped tumour cell.

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References

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Fig 1 Part of a blood capillary from an endemic African Kaposi's sarcoma. Atypical thick endothelium bulges into capillary lumen (asterisk) and is surrounded by cell processes of pericytes and a reduplicated basal lamina. Rod shaped Weibel-Palade bodies are present in endothelial cytoplasm (arrows).

Fig 2 Portion of a capillary endothelial cell from an AIDS associated African Kaposi's sarcoma. Two Weibel-Palade bodies (arrows) are located in cytoplasm near to capillary lumen (asterisk). Intracytoplasmic tubuloreticular structure can be seen in lower left corner of the picture.

Book reviews

The Geography of Non Infective Disease. MSR Hutt, DP Burkitt. (Pp 184; hard back £22.50; soft cover £12.50.) Oxford University Press. 1986. ISBN 0-19-261-5971 (hard-back); ISBN 0-19-261-4517 (soft cover).

Except in the most motivated of people careers develop in a haphazard opportunistic way; frequently fashioned by those one works for or meets in the clinical hurly

burly. In the mid sixties my own views of what I wanted to do were much influenced by Michael Hutt and Denis Burkitt, who from the high ground of Makerere, came to the support of a particular piece of Glasgow flotsam washed up on the beaches of Dar es Salaam. In a variety of ways their enthusiasm for geographical pathology showed me that the value of pathology was much more than simple diagnosis or even painstaking complicated morphological classifications. When coupled with epidemiology—however coarse the local constraints—geographical

pathology was an exciting investigative tool often neglected in Britain but very successful in the tropics in defining those areas worthy of detailed investigation.

In *Geography of Non Infectious Disease* the authors have brought together the main facts of the associations of geographical environment and non-infective disease. They have produced a synoptic view written in a style which raises enthusiasms (and also some regrets that the British effort in tropical medicine and pathology is now so meagre and apparently spent). This is a book partic-