Letters to the Editor

Prognostic importance of nucleolar organiser regions in embryonal rhabdomyosarcoma

The use of the silver colloid technique^{1,2} is of increasing interest to many pathologists and has been used in the investigation of a variety of human malignant tissues. The method seems to be useful in the discrimination between high and low grade non-Hodgkin's lymphomas,² in the identification of the three commonest round cell tumours of childhood,¹ in the differentiation between low grade fibrosarcoma and fibrous proliferation,³ in the differentiation between basal cell carcinomas and other basaloid skin tumours,⁴ in the diagnosis of melanocarcinoma,⁵ and in certain aspects of breast disease.⁶ In our experience the technique is of no use in a variety of endocrine neoplasms, in the grading of colonic and gastric dysplasia, and in certain fine needle aspiration specimens.

We applied the technique to 20 specimens of embryonal rhabdomyosarcoma which had been previously characterised by immunohistochemistry, light, and electron microscopy. The clinical and three year follow up details of these patients were known and the numbers of nucleolar organiser regions (AgNORs) produced were examined with respect to age, stage, recurrence and survival.

All tumours were either stage I or II and were from various sites including genitourinary and head and neck. The ages ranged from 4 months to 8 years (six patients were female and fourteen were male). There was no significant correlation between AgNORs and any factor examined. The combination of short follow up and limited disease may have obscured the clinical importance but it seems that, in common with Ewings' sarcoma,⁷ the method is of no use in the prediction of short term outcome. A long term follow up study is underway.

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Microsporidiosis in a British patient with AIDS

A jejunal biopsy specimen from a 34 year old human immunodeficiency virus (HIV) positive homosexual man with diarrhoea and malabsorption showed microsporidian spores within enterocytes. We believe that this is the first such case to be reported in the British literature.

Prior to the advent of acquired immune deficiency syndrome (AIDS) microsporans had rarely been found in man,^{1,2} although the organisms are widespread in animals.³ A small number of cases of infection by the parasite have been published from the United States of America^{4,5} and France,^{6,7} and a review of the species infecting mammals⁸ documents reports in primates, including man.

Our patient first presented in 1981 with generalised lymphadenopathy. In 1985 he developed hepatitis B and because of lymphopenia was tested for HIV antibody which proved positive. HIV antibody testing of serum stored from 1981 was also positive. By December 1985 he had a considerable degree of immunosuppression with a total T4 num-

Fig 1 Microsporidian spore showing characteristic cross sections of internal coiled polar filament.

Fig 2 Low power of microvillous epithelium showing several microsporidian spores within an enterocyte.

Fig 3 Sporoblast within an enterocyte showing many polar filaments and several nuclei.

ber of 337 and a reversed T4 (24%): T8 (56%) ratio with poor mitogen response. In 1986 he had *Pneumocystis carinii* pneumonia and recurrent varicella-zoster infection. In 1987 he developed watery diarrhoea and malabsorption and a jejunal biopsy was performed. No ova, cysts, or parasites were seen in the faeces. *Candida* and *Torulopsis glabrata* were isolated from the jejunal fluid.

The jejunal biopsy specimen was processed conventionally for light and transmission electron microscopy. Histologically there was preservation of villous architecture and no clinically important abnormalities were detected. Gram, Giemsa, Ziehl Neelson and Grocott stains failed to show identifiable organisms. Electron microscopic examination, however, showed microsporidian spores with characteristic internal coiled filaments within some surface enterocytes (fig 1).

Up to six spores measuring 1.5 to 1.7 μ m in length and 0.9 to 1 μ m in diameter were found in thin sections of individual cells (fig 2). The walled spores contained a single nucleus, five complete turns of the polar filament, and a multilamellar polaroplast.