Treatment of Waldenström's macroglobulinaemia with α interferon

Alpha interferon has been shown to have some activity against B cell non-Hodgkin's lymphomas, primarily the low grade histological types. It has also been used in Waldenström's macroglobulinaemia, but its activity in this disorder is not very well documented. We report a patient with Waldenström's macroglobulinaemia and cryoglobulinaemia, who derived considerable benefit from treatment with α interferon.

A 68 year old Caucasian woman presented in November 1985 with a six month history of recurrent epistaxis, night sweats, and severe Raynaud's disease. She also complained of blurring of vision. On examination the fingers were blue, there was no lymphadenopathy, and the spleen was just palpable. Fundal examination showed typical changes of hyperviscosity. A full blood count showed: haemoglobin concentration of 10.7 g/dl, white cell count of 8.7 10^9/l with a normal differential, and a platelet count of 7 10^11/l. Urea and electrolytes and liver function tests were normal, but the total protein was raised at 126 g/l, with the presence of an IgM α paraprotein band. There was minimal immune suppression and Bence-Jones protein was absent. The paraprotein band was quantitated at 55 g/l, of which 40 g/l was a cryoglobulin. The bone marrow findings were consistent with a diagnosis of Waldenström's macroglobulinaemia.

She had urgent plasmapheresis with good resolution of her symptoms, but as Bence-Jones protein became detectable within the next few months, she was started on a course of cyclophosphamide, 100 mg daily for seven days, repeated every four weeks. As there was no change in the paraprotein concentration, this was discontinued. She continued to have plasma exchanges every four to six weeks and remained quite well. In early 1988, however, her condition began to deteriorate and she was given cyclophosphamide, 1 g intravenously, at monthly intervals. This was discontinued after six months as the paraprotein concentration had not changed. Moreover, she was requiring regular blood transfusions.

By October 1988, despite three weekly plasma exchanges, her general condition continued to deteriorate. She had excessive gum bleeding, her visual disturbance worsened, and she had several episodes of loss of consciousness. She was therefore given α interferon (Intron A), 3 meganits three times weekly. The figure shows the striking response of the paraprotein and cryoglobulin concentrations to treatment with α interferon. In particular, she required no further blood transfusion and needed only one plasma exchange in the ensuing three months. She experienced severe side effects from α interferon, however, and it was temporarily discontinued. The paraprotein concentration increased, with reappearance of her symp-

Germinal with prominent apoptotic bodies in characteristic scattered distribution (single arrow). Interstitial infiltration and tubulitis are also seen (double arrow) (Haematoxylin and eosin). Inset: apoptotic body in tubular epithelial cell.
plant rejection. The absence of staining for leucocyte markers and the characteristic electron microscopic findings show that the light microscopic appearances do not merely represent inflammatory cell fragmentation. The pathogenesis of this finding is uncertain. Mild ischaemia and cytotoxic type lymphocyte mediated killing can both cause apoptosis. Clinically important ischaemia must have occurred in this case because of the severity of vascular damage. Lytic infiltration was seen in tubules but was absent in glomeruli. In rats perfusion of kidneys with Lyl antibody, which binds to mesangium, induces "mesangiolyis", changes morphology similar to apoptosis. Antibody dependent mechanisms are thought to be important in vascular rejection with endothelial cells the principal target. Interestingly, apoptosis was most prominent in glomerular endothelial cells. The importance of apoptosis in transplant rejection is unclear. It may represent a specific form of cell killing or be a reflection of ischaemia. Further studies are underway to assess its clinical importance in various patterns of rejection and its prognostic value, if any.

**D R GOLDSBROUGH**

**D J HARRISON**

Department of Pathology, University of Edinburgh, Medical School, Teviot Place, Edinburgh EH8 9AG


4 Ulcer DS. Cytotoxic T lymphocytes and glucocorticoids activate an endogenous protease in target cells. Nature 1987;327:52-64.


**Leukaemic phase of mantle zone lymphoma**

The article, "Leukaemic phase of mantle zone (intermediate) lymphoma: its characterisation in 11 cases," was very informative. Intermediate lymphocytic lymphoma (ILL) can pose problems with regard to correct diagnosis and grading of this disease. In their introduction the authors mention that in the Working Formulation most cases would be assigned to the category of small cleaved cell type with intermediate prognostic grade. In their discussion, however, they state that it is a form of low grade lymphoma. It is therefore not clear from this paper or from the literature as to the proper grading of this type of lymphoma in the Working Formulation. Weisburger et al., on the basis of immunophenotyping and cytogenetic studies, suggest that there is a close linealage relationship between ILL and small lymphocytic lymphoma/chronic lymphocytic leukaemia. They feel that on the basis of their differing clinical, cytological, and architectural features, cases of ILL should be considered a separate category of lymphocytic lymphoma of the Working Formulation. On the other hand, the median survival of less than 24 months in the series reported by Pombo de Oliveira, Jaffe, and Catovsky, and 22 months (leukaemic patients) in the series reported by Weisburger et al., would tend to suggest that it may be more appropriately classified into the intermediate prognostic grade. In the latter series, even in cases without leukaemic phase, the median survival was only 35 months.

Perhaps a multi-institutional study comprising a large number of cases, which also incorporate immunological and cytogenetic data, would result in a better understanding and therefore a more appropriate categorisation of this non-Hodgkin's lymphoma.

**K A V CARTWRIGHT**

Public Health Laboratory, Gloucestershire Royal Hospital, Great Western Road, Gloucester GL1 3NN

D M JONES

Public Health Laboratory, Withington Hospital, Manchester M20 8LR


4 Ulcer DS. Cytotoxic T lymphocytes and glucocorticoids activate an endogenous protease in target cells. Nature 1987;327:52-64.


**HPV or human parvovirus?**

A short while ago a letter in this Journal commented on the inappropriateness of the designation "HPV" for human parvovirus, stating that HPV had been the denominator for human papillomaviruses for many years. At the risk of the subject becoming tedious, I would like to expand on this issue. Earlier this year I expressed concern regarding the use of the abbreviation "HCV" for a newly identified non-A, non-B hepatitis virus designated C. As far back as 1975 a report by the Study Group on Coronavirus, Vertebrate Virus Subcommittee, International Committee on the Taxonomy of Viruses (ICTV) proposed a list of abbreviations for the species of coronavirus, including HCV for human coronavirus. This and abbreviations for other coronaviruses were again stated in the second report of the ICTV Coronavirus Study Group 1978.

The use of the abbreviation HCV for a hepatitis C virus in man, could cause considerable confusion, and matters could get worse should another candidate non-A, non-B hepatitis virus be designated hepatitis E virus (HEV). This abbreviation already exists for porcine haemagglutinating encephalitis virus — by chance another coronavirus! In my opinion it is therefore inappropriate to use the abbreviation HCV for anything other than human coronavirus. If it is necessary to classify viruses causing hepatitis in man as A, B, C, D, etc, then the name should surely be prefixed with the word human—human hepatitis C virus HCV.

I have been informed that abbreviations of virus names have no formal or official status. Why, then, are they acceptable as key words on papers? Literature searches can be difficult enough without further avoidable complications. Clearly designating encapsidated virus names need to be regulated by the appropriate virus study group — now.

**C J RONALDS**

Department of Virology, Royal London Hospital, 51-53 Barbican Close, West Smithfield, London EC1A 7BE

