2-Chlorodeoxyadenosine for Hairy Cell Leukaemia

Sir,

Hairy cell leukaemia (HCL) is a rare form of leukaemia seldom encountered in Malaysia. Splenectomy, interferon and deoxycoformycin were previously the treatment options for this disease. Recently, a new cytotoxic agent, 2-chlorodeoxyadenosine (2-CDA), has been shown to achieve more than 90% long term remissions with 1 single course of treatment. We describe a patient with HCL treated successfully with 2-CDA.

A 42-year-old Indian man presented with a 4 week history of recurrent sorethroat, lethargy and fever. On examination, he had cervical and axillary lymphadenopathy and an 8 cm splenomegaly.

His haemoglobin level was 65 gm%, platelet count was 49 x 10^9/l and the total leucocyte count was 2.4 x 10^9/l with 95% lymphocytes. Abnormal cells with cytoplasmic projections suggestive of hairy cell leukaemic blasts were present. There were cytoplasmic projections seen on phase contrast electron microscopy. Tartrare resistant acid phosphatase activity was demonstrated.

He was started on 3 mega units alfa interferon 3 times per week for 3 weeks. There was improvement in the pancytopenia and his spleen reduced in size to 5 cm. He developed tonsillitis with high grade fever and tender cervical lymphadenopathy which settled with antibiotics.

2-CDA, 0.1 mg/kg/day continuous infusion for 7 days was then started. Bactrim 960 mg bd for 2 days per week was given as prophylaxis against pneumocystis pneumonia. Fluconazole 50 mg daily was given as antifungal prophylaxis.

2-CDA was well tolerated without any side effects. By day 10, his spleen and lymph nodes were not palpable. However, leucopenia was observed. His leucocyte counts were lowest at 0.5 x 10^9/l on day 8 and were normal by day 63. A bone marrow aspiration and trephine biopsy confirmed complete remission on day 100. He has remained in remission at last follow up 7 months after 2-CDA therapy.

Pancytopenia is the main cause of morbidity and mortality in HCL. Splenectomy may reverse the pancytopenia but often after 2 years, as marrow disease progress, the pancytopenia recurs.

With interferon, remission can be achieved in more than 60% of patients but relapses are common[1]. The duration of therapy is also prolonged, usually for at least 1 year. This patient was initially treated with alfa interferon while awaiting the availability of 2-CDA. He did show response to interferon but developed an infection requiring hospitalisation and systemic antibiotics.

Piro et al showed that all patients responded after a single course of treatment with 2-CDA with more than 90% achieving complete remission[2]. No relapses have yet been reported. Estey et al[3] reported an 89% remission rate in 46 patients with only one relapse with a median duration of remission exceeding 37 weeks. The most common adverse effects are neutropenia and thrombocytopenia especially those patients who were pancytopenic at initiation of therapy. Febrile episodes during treatment were also noted in their series. We believe 2-CDA is currently the most promising treatment option for HCL today.

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References

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