Lancashire and South Cumbria Haematology CRG

GUIDELINES FOR THE INVESTIGATION AND MANAGEMENT OF T-CELL PROLYMPHOCYTIC LEUKAEMIA (T-PLL)

Introduction

T-cell prolymphocytic leukaemia (T-PLL) is a rare T-cell neoplasm composed of lymphoid cells, typically with involvement of the peripheral blood, bone marrow, lymph nodes and spleen. T-PLL comprises approximately 2% of mature lymphocytic leukaemias in adults. Mean age of presentation 65 years. There is a higher prevalence of T-PLL in patients with ataxia telangiectasia with a younger age of onset.

Presentation

T-PLL is an aggressive malignancy presenting with splenomegaly, lymphadenopathy and a high white cell count which in half the patients is in excess of 100 x 109/l. Anaemia and thrombocytopenia can be seen. Skin infiltration and serous effusions (ie pleural) can occur. Some patients may present with an indolent phase which inevitably progresses.

Investigations

Blood film slides, peripheral blood, bone marrow aspirate, trephine and bone marrow cell markers to be sent to HMDS Leeds, Level 3, Bexley Wing, St James' Institute of Oncology, Beckett Street, Leeds LS9 7TF.

CT scan in selected patients with suspicious of lymphadenopathies.

Management

Many patients are asymptomatic and can be observed. 30% of patients with T-CLL present with initially stable or slow progressive disease. It is however advisable to monitor these patients more closely than patients with other chronic leukaemias as progression can occur rapidly.

Indications for Treatment

Symptomatic anaemia, thrombocytopenia or neutropenia.

Systemic symptoms such as weakness, night sweats, weight loss or fever.

Skin infiltration, pleural effusion or central nervous system involvement.

Progressive disease demonstrated by increasing lymphocytosis and/or rapidly enlarging lymph nodes, spleen and liver.

Initial Treatment

Alemtuzumab is initial treatment of choice. Intravenous route recommended (see network protocol). Premedication with paracetamol and Piriton recommended. Slowly escalating doses advised in week one. Antibiotic prophylaxis against pneumocystis, viral infection and fungal infections are recommended (as per local practise). Cytomegalovirus quantitative PCR monitoring recommended on a weekly basis if previous CMV infection. Antibiotic prophylaxis recommended post-two months completion of therapy. Maximal duration of therapy - 18 weeks.

Pentostatin, **Fludarabine** and **Cladribine** have utility. **Pentostatin** is the most commonly used purine analogue in this condition. Response of **Pentostatin** considered to be inferior to **Alemtuzumab**, although no direct comparisons in clinical trials.

Historical agents such as **Chlorambucil** and **CHOP** are now usually considered to be of low efficacy.

Patients should be entered into clinical trials wherever possible.

Response Evaluation

Six to eight weeks following initiation of therapy, peripheral blood, bone marrow aspirate, trephine and cells markers should be sent to HMDS Leeds and CT scan whole body as indicated.

Post-Remission Therapy

All eligible patients should be referred to tertiary centre for consideration of either a bone marrow allograft (Christie Hospital or Manchester Royal Infirmary) or autograft (Blackpool Victoria Hospital). Initial referral should be made before initiation of therapy. Usual requirement to have obtained complete remission post-therapy.

Maintenance therapy should not be given outside a clinical trial.

Management of suboptimal response or refractory disease

Alemtuzumab intravenously can be given in combination with Pentostatin. Alemtuzumab intravenously three times weekly for up to three months and Pentostatin 4mg m^2 given intravenously weekly for four weeks followed by alternate weekly administration for up to six months. Prophylactic antibiotics including antiviral, antifungal and antibacterial agents recommended for two months post-completion. High infection risk with this regime despite antibiotic prophylaxis.

Single agent purine analogues can be considered.

There is a dearth of literature and evidence concerning the management of suboptimal or refractory disease. Advise discuss with tertiary centre for possible clinical trial.

Management of Relapse T-cell PLL

Repeat treatment with Alemtuzumab or purine analogue.

Enrolment in clinical trial, as little information exists on the treatment of recurrent T-cell PLL

References:

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