Should hypoalbuminaemia be an indication for initiating therapy in chronic lymphocytic leukaemia?

M Kumar*, TK Dolai

Abstract
Introduction
Hypoalbuminaemia is not amongst the established indications for initiating therapy in patients with chronic lymphatic leukaemia, although it is known to be a poor prognostic marker.

Case Report
We present a rare case of chronic lymphatic leukaemia who had symptomatic hypoalbuminaemia refractory to all medical therapy and ultimately responded to chemotherapy with bendamustine rituximab.

Conclusion
Whether hypoalbuminaemia refractory to medical therapy is an indication for initiating therapy is open for debate, as this is probably the first such case.

Introduction
Chronic lymphatic leukaemia (CLL) is a disease of the elderly that need not always be treated. There are definite indications for initiating therapy in a patient of CLL that mainly require the presence of an active disease. Hypoalbuminaemia is not a recommended indication for therapy. We present a unique case of symptomatic, refractory hypoalbuminaemia in a patient of CLL that was controlled only after giving chemotherapy.

Case report
A 72-year-old male presented with ascites along with bipedal pitting oedema for a duration of 2 months. He was otherwise non-alcoholic, but was diabetic and hypertensive that were controlled on medications. On examination, he had generalised lymphadenopathy (b/l cervical and axillary, largest being 3 × 4 cms), with no organomegaly. Ultrasound abdomen was essentially normal. Biochemical investigation showed hypoalbuminaemia (serum albumin 2.1 g/dl) with otherwise preserved liver function (TB 0.6 mg/dl, SGOT 35 U/dl, SGPT 38 U/dl, TP 5.8 mg/dl, PT 14.2 s) and normal renal function (urea 32 mg/dl, creatinine 0.7 mg/dl, 24-h urine protein 75 mg). His complete blood count was haemoglobin 12.3 g/dl; total count 43,900 cells per cubic mm with 71% lymphocytes, 24% polymorphs, 2% prolymphocytes, 2% monocytes and 1% eosinophils and a normal platelet count. A bone marrow aspirate and immunophenotyping for evaluation of lymphocytosis was consistent with the diagnosis of atypical CLL (positive for CD5, CD20, CD23, CD25, FMC7, CD38). His LDH was 140 U/L and beta-2-micoglobulin was 2.5 mcg/ml. Molecular and genetic testing was not done due to financial issues. The patient was initially managed conservatively with fluid restriction, salt-restricted diet, oral furosemide and albumin infusion. But he did not respond and had recurrent ascites.

To summarise, this 72-year-old male with chronic lymphatic leukaemia, Rai stage I with no evidence of active disease, but had symptomatic disease-related hypoalbuminaemia. Although he had no active disease, he was significantly symptomatic for hypoalbuminaemia. So he was treated with BR protocol (bendamustine rituximab) in a 28-day cycle. After four cycles of BR, the patient had improvement in his symptoms, with regressing ascites and his serum albumin stabilised to a normal range.

Discussion
Consensus indications for initiating therapy in patients with CLL include patients with active disease. This includes evidence of progressive marrow failure (with anaemia and thrombocytopenia), progressive splenomegaly (generally regarded >6 m), progressive lymphadenopathy (>10 cm), presence of B symptoms, progressive fatigue and autoimmune phenomenon not responding to conventional therapies. There are reports suggesting that treatment in patients without active disease is not associated with any improvement in survival.

The place of hypoalbuminaemia as a prognostic marker in CLL is controversial. With some studies confirming it as an independent prognostic marker, some have not. The present patient with CLL has a rather unusual presentation with symptomatic hypoalbuminaemia that is refractory to all medical therapy and ultimately responds to chemotherapy for CLL. Such a presentation is unique and has not been reported previously. This opens up new discussion as to whether hypoalbuminaemia be considered an indication for initiating therapy in patients with CLL. Considering the good control obtained after chemotherapy in this patient, we propose symptomatic, refractory
hypoalbuminaemia should be considered an indication for therapy. Although in the absence of sufficient data, the same issue needs to be addressed as part of bigger trials.

**Conclusion**

This case re-emphasises the significance of hypoalbuminaemia in CLL. Low albumin levels should be considered as a poor prognostic marker in CLL. Whether hypoalbuminaemia refractory to medical therapy is an indication for initiating therapy is open for debate, as this is probably the first such case.

**Consent**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editor-in-chief of this journal.

**Abbreviations list**

CLL, Chronic lymphatic leukaemia.

**References**