# PLASMA CELL LEUKEMIA — A CASE REPORT

S C Ng, M K Lee

## ABSTRACT

An elderly man developed plasma cell leukemia 7 months after multiple myeloma was diagnosed. Thereafter, he deteriorated rapidly and succumbed to the disease 1 month later despite treatment.

**Key Words:** Plasma Cell Leukemia, Multiple Myeloma.

**SING MED J. 1989; NO 30: 408-409**

## INTRODUCTION

Plasma cell leukemia (PCL) has been described as a primary form without pre-existing multiple myeloma (MM) or as a terminal event in MM. We report the first case of PCL seen in this institution.

## CASE REPORT

TST was a 76-year-old man who was diagnosed to have multiple myeloma (MM) in Feb 1987 when he presented with backache for 1 month. On examination, no organ-megaly or lymphadenopathy was noted. Haematological evaluation showed a leukoerythroblastic anaemia with a haemoglobin concentration of 6.4 g/l, a white cell count of 12.6 × $10^9$/L and platelet count of 64 × $10^9$/L. Serum immune electrophoresis showed an IgG lambda paraprotein at a level of ›100g/L with depression of IgA and IgM levels. No Bence Jones proteinuria was detected. Bone marrow aspiration revealed diffuse infiltration by plasma cells (›30%); some of them exhibited abnormal morphology. There were no typical radiolucent changes in skull and pelvic radiographs. He was started on monthly cyclical courses of oral cyclophosphamide and prednisolone. He improved with chemotherapy. However, 7 months later, he developed compression fracture at L3-4 level. Chemotherapy was changed to mephalan and prednisolone. The peripheral blood showed abundant plasma cells (mature and immature) which constituted 38% of the nucleated cells with an absolute plasma cell count of 10.4 × $10^9$/L. A diagnosis of Plasma Cell Leukemia (PCL) was made. Thereafter he developed cerebral thrombosis related to Hyperviscosity syndrome. In addition, hypercalcemia and hypostatic pneumonia and progressive renal impairment were noted. He died 10 days later; permission for autopsy was not granted (Fig 1).

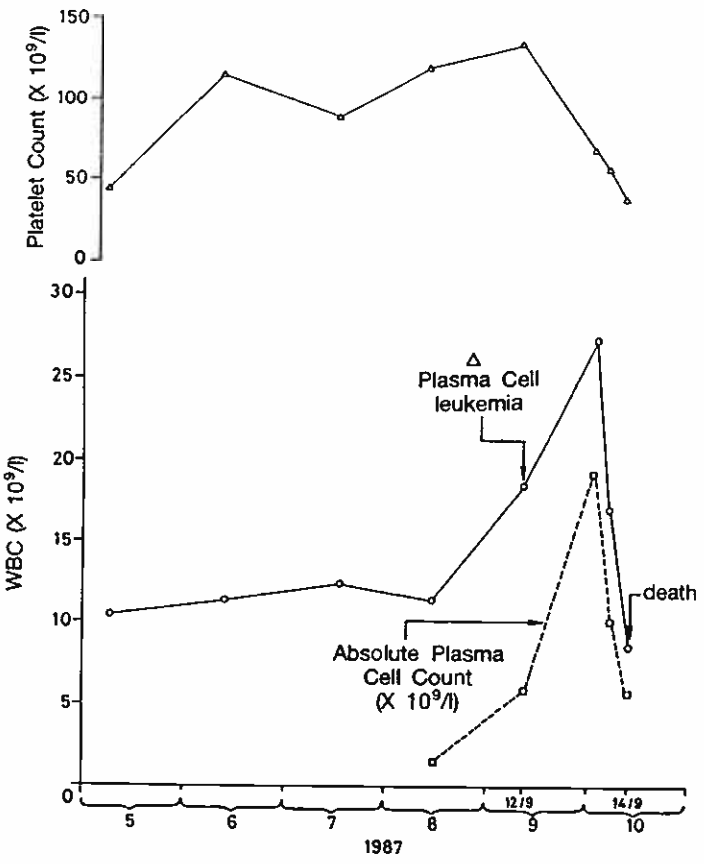


Figure 1: Clinical course of patient

## DISCUSSION

According to Bichel et al (1) and Kyle et al (2), the criterion for the diagnosis of PCL is the presence of more than 20% of plasma cells in the peripheral blood or the absolute count of 2 × $10^9$/L. The clinical picture varies from the terminal leukemia stage of MM to a fulminating course of acute leukemia (3). The patient described in this case report fulfilled the criteria of PCL. PCL is a rare form of plasma cell dyscrasia and its incidence is yet to be determined accurately.

**Haematology Division**
**Department of Pathology**
**Medical Faculty**
**University of Malaya**
**Kuala Lumpur**
**Malaysia**

S C Ng, MBBS, MRCP, MPath, Haematologist and Lecturer

**Department of Medicine**
**University of Malaya**

M K Lee, MBBS, MRCP, Lecturer

**Correspondence to:** Dr Ng

Our patient was anaemic, thrombocytopenic and had leucocytosis at presentation. These features were reported by Kyle et al (2) to be more commonly found in patients with MM who developed PCL than patients with MM who did not develop PCL. The prognosis of PCL patients is poor. Treatment is generally ineffective, but occasional worthwhile responses have been reported (4, 5). Our patient deteriorated rapidly and died 1 month after PCL was diagnosed despite treatment.

**REFERENCES**


1. Bichel J, Effesoe P, Gormsen H, Harboe N. Leukemic myelomatosis (Plasma cell leukemia): a review with report of 4 cases. Acta Radiol 1952; 37:1683-5
2. Kyle BA, Maldonado JE, Bayrd ED. Plasma cell leukemia: A report on 17 cases. Arch Intern Med 1974; 133:813-8
3. Pruzanski W, Platts ME, Ogrylzo MA. Leukemic form of immunocytic dyscrasia (plasma cell leukemia). A study of ten cases and a review of the literature. Am J Med 1969; 47:6074
4. Carlomaurizio M, Alberto R, Giampaolo M, Edoardo. Complete remission in plasma cell leukemia. Br J Haematol 1986; 62:525-7
5. Shaw MT, Twele TW, Nordquist RE. Plasma cell leukemia: Detailed studies and response to therapy. Cancer 1974; 33:619