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Cataract after Busulphan Therapy

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Busulphan (Myleran) introduced in 1953 as an alkylating agent is the drug of choice in the treatment of chronic myeloid leukemia. Cataract as a toxic effect caused by prolonged busulphan therapy has been rarely reported [1-3].

In this paper, a patient with chronic myeloid leukemia who developed mature cataract in both eyes during prolonged busulphan therapy is presented.

rates were hypoplastic, and blasts were slightly increased. This condition was diagnosed as myelofibrosis. The diagnosis of myelo-fibrosis was also confirmed by a bone marrow biopsy. In addition, it was felt that according to the biochemical findings, the patient could have had a hepatitis B infection.

On leaving the hospital, her hematocrit value was maintained at 20% by blood transfusions. After a short period of time, blastic transformation occurred, and the woman died at her home 3 weeks after having been discharged.

Case History

A 40-year-old woman was admitted to our hospital in March 1979 because she had been suffering from cervical lymph node enlargement for 3 months. Cervical lymph node biopsy had been performed 2 weeks before admission and lymph node tuberculosis was diagnosed. On physical examination, cervical and left axillary lymph nodes were palpable. The spleen was enlarged up to 2 cm below the left costal margin. There was no hepatomegaly. Laboratory examination revealed the following data: sedimentation rate 50mm/h, hematocrit 35%, leukocyte count 29,200/mm³. Differential leukocyte count showed a shift towards the left. The sternal bone marrow aspirate was hyperplastic and the myeloid-erythroid ratio was 5:1. The Philadelphia chromosome was present in the bone marrow cells. Therapy for lymph node tuberculosis and busulphan therapy for her chronic myelocytic leukemia were started at the same time. Therapy for tuberculosis was continued for 1.5 years. The patient needed busulphan therapy (1-2 mg daily) continuously.

In April 1985, the woman noted failure of vision first in her right eye and 3 months later in her left eye. On examination, this was found to be due to an early cataract. In October 1985, the patient was admitted again to our hospital because of fever (37.5°C), tiredness and failure of vision in both eyes. On physical examination, multiple small lymph nodes were palpable in her cervical region. Sternal tenderness was present. The spleen was palpable 4 cm below the left costal margin. Hyperpigmentation around both eyes, elbows and the abdomen was

observed. In addition, skin lesions due to herpes zoster were found on the right side of her thorax. Mature cataract was present in both her eyes. The hematocrit value was 21 %, reticulocytes 3%. The morphologic features of the red cells in the blood film showed anisocytosis, severe poikilocytosis, poly-chromasia and basophilic stippling. The leukocyte count was 15,600/mm³. Differential leukocyte count showed leukoerythro-blastosis; the platelet count was 400,000/mm³. Bone marrow aspi-

Discussion

The patient presented in this report had been taking 1-2 mg of busulphan daily from 1979 until 1985, when she first noticed failure of vision. No reason other than the prolonged busulphan therapy was found to be the cause of her cataract. When the patient was admitted to our hospital for the second time, her general condition did not allow operation for her cataract.

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