Cataract after Prolonged Busulphan Therapy

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Busulphan is an alkylating agent commonly used for the treatment of chronic myeloid leukemia (CML). Myelotoxicity, development of pulmonary fibrosis and skin hyperpigmentation, amenorrhea and sterility are the well-known side effects of busulphan. Cataract, reported in a few cases, is another side effect of busulphan [1-4]. The mechanisms underlying this side effect of the drug are not known.

In 1983, a 34-year-old white man was admitted to our clinic with pallor, weakness and abdominal discomfort. He had spleen enlargement, anemia, leukocytosis with a shift to the left and a normal platelet count. The leukocyte alkaline phosphatase level was reduced. The bone marrow aspirate showed myeloid hyperactivity. The Ph chromosome was positive. With these findings he was diagnosed to have CML and busulphan was started at a dose of 8 mg/day. After adequate response was achieved the dose of the drug was reduced and the patient was followed as an outpatient, receiving busulphan 1-2 mg/day until 1988. In 1988 he noticed blurring of vision and ophthalmological examination revealed newly developing bilateral cataracts. Busulphan was discontinued and possible etiological factors for his cataract were searched and excluded, except for prolonged busulphan therapy. He had iridectomy and lensectomy on the left eye in 1990, and lensectomy and artificial lens replacement on the right eye in 1991. After 1 year, blastic transformation into acute leukemia (ANLL, FAB M3) was observed and the patient was hospitalized. Induction therapy failed and the patient died 1 month after the onset of blastic transformation.

Because of CML, this patient had been treated with busulphan for a period of 5 years. For the development of cataract, prolonged busulphan treatment was the only possible etiological factor left, other etiological factors being excluded. Although the mechanisms underlying this side effect of busulphan are not clear at present, there are some reports pointing to the possible etiologic relation [1-4]. This case is another example of cataract formation after prolonged busulphan therapy.

References

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