

tic) Gaucher's disease that is a rare form, of which only a few cases have been reported. Morrison *et al.*² described 2 patients with asplenomegalic Gaucher's disease in whom the presenting symptoms were purpura and anaemia respectively and the diagnosis was established only after bone marrow examination. The authors cited two more cases of Gaucher's disease without splenomegaly. In a series of 34 patients, Matoth *et al.*³ treated only one 9-year-old patient in whom the spleen was not palpable. In our series of more than 30 cases with Gaucher's disease, we had one asplenomegalic patient. Since there is a correlation between the size of the spleen and the severity of the symptoms including the hematological findings, it is possible that some asymptomatic patients with Gaucher's disease remain undiagnosed. With the introduction of enzyme replacement therapy, a reduction of the spleen size has been reported in both type 1 and 2 Gaucher's disease.^{4,7}

In our patient, causes of the decrease in spleen size, such as infarctions and obstruction of the splenic blood vessels, were excluded on the basis of lack of clinical symptoms and normal ultrasound and isotope scan examinations. Absence of red cell pitting, Howell-Jolly and Heinz bodies excluded the possibility of hyposplenism in which the spleen function is impaired. On the contrary, although the spleen in our patient decreased to a normal size, its function remained increased, judging from the mild peripheral blood pancytopenia.

Key words

Gaucher's disease, spleen, splenomegaly

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Acute leukemias after treatment with radioiodine for thyroid cancer

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Leukemia is an uncommon complication of exposure to radioiodine (¹³¹I), used in treatment of thyroid cancer, because low doses are now used. We report two cases of acute myelogenous leukemia developed after the treatment of a thyroid carcinoma with a small dose of ¹³¹I.

Radioiodine (¹³¹I) has been used in the treatment of thyroid cancer in order to eliminate residual thyroid tissue after thyroidectomy and to treat metastatic disease.^{1,2} Leukemia is one of the most prominent late effects of exposure to ionising radiation,³ but is an uncommon complication of exposure to ¹³¹I.⁴ Most cases reported in the literature, have occurred after cumulative dosages higher than 800 mCi, but we report two cases of acute myelogenous leukemia after a small dose of ¹³¹I.

A 34-year-old woman was admitted at our hospital for anemia and a bone marrow aspirate revealed M2 acute myeloid leukemia. Chemotherapy was ordered and achieved complete remission. Three years later, the myeloid disorder relapsed and she received an autologous bone marrow, remaining in remission on date. Two years before of the leukemia, she was diagnosed papillary thyroid carcinoma, which was surgically intervened. A post-operative total body iodine scan showed cervical uptake, so she received a single dosage of 150 mCi ¹³¹I. Eight months later she had a negative whole body ¹³¹I scan. The patient's condition remained stable thereafter on a suppressive dose of thyroid hormone.

A 43-year-old female was admitted at our department for thrombocytopenia. An acute promyelocytic leukemia was diagnosed and she was treated with ATRA (all-trans-retinoic acid) and chemotherapy. She remained in remission 2 years but died later during the relapse treatment. Five years before of the leukemia, she was diagnosed of a papillary thyroid carcinoma and a partial thyroidectomy was performed. A post-operative total body iodine scan showed residual thyroid activity but no metastatic lesions. She received a dose of 150 mCi ¹³¹I and 3 subsequent follow-up scans which were normal.

It is believed that ionizing radiation can be leukemogenic. Acute leukemias have been reported after radioiodine therapy for thyroid cancer.^{3,4} The bone marrow should not receive a total dose which exceed 1000 mCi, and there should have an interval at least

one year between doses.¹ Almost all cases reported in the literature occurred after a total dose of more than 800 mCi and with an interval between doses of 2 and 6 months.^{1,5}

Our patients received only a single dose of 150 mCi and, to our knowledge, the case previously reported of acute leukemia after a small dose of radioiodine, were a patient who received 2 doses of 150 mCi,¹ and 4 cases of chronic myeloid leukemia after a total dose less than 150 mCi.⁴ On the other hand, no cases of leukemia was observed after a follow up of 10 years, in a long serie of 1771 patients treated for a thyroid cancer, with low total dosage.⁶ Likewise the treatment or diagnosis of hyperthyroidism with very low doses (usually 4 to 30 mCi) has not been correlated to an increased incidence of acute leukemia.³

In conclusion, two cases of leukemia after a small dose of ¹³¹I, developed in a period longer than two years, so perhaps they could be considered as a second neoplasia instead of a secondary effect of radioactive treatment.

Anyway, this low and perhaps unrelated risk of leukaemia should not be a contraindication to ¹³¹I therapy.

Key words

Thyroid cancer, radioiodine, myeloid leukemia

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