



Late Cytogenetic Changes after Treatment of Malignancy

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CASE REPORT

A 30-year-old man with azoospermia was routinely investigated in the Department of Clinical Genetics at our hospital. His karyotype was analysed after phytohaemagglutinin stimulation of lymphocytes following short-term cultivation of peripheral blood.

Taking his history, it was ascertained that in childhood, Hodgkin's disease had been confirmed histologically. He began treatment at 7 years, receiving several series of combined cytostatic treatment supplemented with X-ray therapy. The patient's history is summarized in table 1.

For the last 14 years, the patient has felt well. He is not taking medication and has no problems with primary disease. He is examined by an oncologist twice a year (including scintigraphy) with negative findings. He has no complications, except for azoospermia.

The karyotype was analysed using standard methods. The chromosomes were stained by Giemsa following G-banding by the trypsin method.

RESULTS

Chromosome aberrations were detected in about 20% of the analysed mitoses, and included aneuploidy, autosome trisomy and monosomy, balanced and unbalanced translocations, newly derived marker chromosomes, breaks, dicentric chromosomes and acentric fragments.

Three explanations can be proposed for these findings, which require further investigations: (a) long-term effect of X-ray irradiation in childhood, interfering with the stem cells of the bone marrow; (b) manifestation of the onset of secondary malignancy (leukaemia?) not yet presenting symptomatically, or (c) persistence of the primary disease.

Table 1 - Patient's history

Date	Observations, treatment and outcome
September 1971	Enlargement of lymph nodes bilaterally
December 1971	Excision of lymph nodes; confirmation of Hodgkin's lymphogranuloma Therapy: prednisone, Pendepon, cyclophosphamide, supplemented with X-ray therapy, 4,000 rad to the neck
October 1974	Relapse; palpable tumor mass in the abdomen; elevated temperature, spleen + 4 cm Therapy: vincristine, vinblastine, prednisone Outcome: total regression; reclassification of lymphoma to stage 4
March 1976	Relapse; enlarged liver and spleen; numerous enlarged lymph nodes on left side of neck Therapy: X-rays (4,000 rad) to supraclavicular areas bilaterally Outcome: liver and spleen size reduced
November 1976	Relapse; hepatosplenomegaly Therapy: cyclophosphamide, vincristine, Natulan, prednisone
August 1977	Chemotherapy changed to adriamycin, vincristine, dacarbazine, 4 cycles, supplemented with electron therapy, 81 eman
February 1980	Repeat and final course of the above therapy.

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