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## Leukemic Infiltration Of The Testes. (Case Report)

by

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### Introduction

Principally, leukemia is able to infiltrate every organ including testicles (Nelson, 1969). However, clinically evident testicular involvement is relatively uncommon. So far, this kind of complication is unknown in the Indonesian medical literature.

Givler (1969) reported his investigation from 1935 through 1967, concerning 422 males suffering from leukemia or lymphoma. Autopsy was done on all those cases, and sections of the testis were available for microscopic review in 362 cases. The results were that severe infiltrations were found more common in acute lymphoblastic leukemia, whereas in chronic leukemia infiltrations were less common.

Finkelstein et al. (1969) found testicular infiltration of leukemia in 4 boys suffering from acute lymphocytic leukemia. De Villez et al. (1972) detected symmetrical enlargement of

breasts and testes due to leukemic infiltration in a 31-year-old male patient.

The present report describes leukemic infiltration of the testes in a 6½-year-old boy suffering from acute lymphoblastic leukemia during bone marrow and hematologic remission.

### Case Report

S, a 6½-year-old Indonesian boy, Chinese of extraction, attended the Hematologic Clinic of the Department of Child Health, Dr. Tjiptomangunkusumo General Hospital, Jakarta, since May 1973, with the diagnosis of acute lymphoblastic leukemia during bone marrow and hematologic remission. One month before, he was hospitalized in St. Carolus Hospital, Jakarta, for 24 days for the same illness.

During ambulatory treatment in the Hematologic Clinic he was treated with a cyclic combined chemo-

therapy. Twice weekly peripheral blood examinations were done. Apparently, so far, the result was satisfying, peripheral blood examinations constantly showed states of remission and the general condition of the child remained good.

To prevent meningeal complication, methotrexate intrathecal injections were instituted periodically, whereas serial irradiations on the cranium were also given to prevent cerebral leukemia, using Co-60 for 30 days with a daily dose of 50 rads (total 1,500 rads).

For the time being, by such prophylactic means of treatment the boy was practically protected from cerebral and meningeal complications.

On July 1973, 3 months after the diagnosis of leukemia had been established, bilateral symmetrical enlargement of the testes was noticed with a firm consistency, it was not painful on palpation.

The boy looked good and was still active, scrotal skin was normal and no sign of infection could be detected. The lymphnodes, liver and spleen were not palpable.

Hematologic examination at that time revealed still a state of remission (Hb. 12 gm%; WBC 6,400/cmm; diff. count: eosinophils 0, band 1, segments 58, lymphocytes 36, monocytes 5; and platelets 372,000/cmm). Two weeks after the testicular involvement had been noticed, biopsies of both testicles were done. Pathologic examination of the specimens revealed

infiltration of malignant, undifferentiated cells (P.A. No.: 735783, see figures 1 and 2).

Irradiation of the testicles with Co-137 with a daily dose of 200 rads was then instituted for 4 days.

Ten days after the beginning of irradiation, both testicles softened in consistency and became smaller in size. They became clinically normal in consistency and size after 20 days.

On December 1973, 8 months after the diagnosis, he suffered from fever. On examination the boy did not look very ill and was practically still active. The lymphnodes, liver and spleen were still within normal limits, but laboratory examination revealed a Hb content of 9 gm%, WBC 1,400/cmm (eosinophils 0, band 0, segments 8, lymphocytes 88, monocytes 4), and platelets 3,000/cmm. These findings showed signs of relapse.

Lumbar puncture revealed a clear cerebrospinal fluid with positive Nonne and Pandy tests. Cell count was 233/3 with 9% polymorphonuclears and 91% lymphocytes.

The patient was then hospitalized for the second time, but unfortunately the general condition deteriorated and he succumbed 2 days later.

#### Discussion

The diagnosis of acute lymphocytic leukemia during remission in this case was confirmed by bone marrow and peripheral blood examinations. After an intensive cyclic combined chemotherapy, obvious improvement

was seen based on the hematologic and bone marrow remissions.

By means of prophylactic irradiation of the cranium and methotrexate intrathecal injections for a certain period of time, infiltrations into the brain and meninges could be prevented.

Furthermore, since maintenance therapy and regular reladuction were instituted, remission could be maintained for a period of about 8 months.

Three months after the diagnosis of acute lymphocytic leukemia had been established, leukemic infiltration in the testes was noticed, which was confirmed by histopathologic examinations of biopsy specimens.

This case is similar to those described by authors, i.e. testicular leukemic infiltration often develops during hematologic remission (Finkelstein et al. 1969; De Villez et al. 1972).

According to Givler (1969), since the advent of chemotherapy testicular leukemic infiltration in acute leukemia has apparently increased in frequency and often develops while the patient is in hematologic remission.

He further stated that the apparent increase in frequency of clinically evident testicular infiltration in acute leukemia may reflect longer survival due to the modern therapy. But either the mechanism by which testicular infiltrates escape control by chemotherapy or the relation of the-

se infiltrates to hematologic relapses is unknown.

In his investigation, Givler (1969) found that in 6 out of 8 children the testicular infiltration appeared 6 months or longer after the onset of the disease.

Shaw et al. (1960), similarly attributed the increase in clinically apparent meningeal leukemia to longer survival.

Burchenal (1968), reported that 5 out of 157 patients with acute leukemia who survived for 5 years or longer, developed a localized recurrence (2 involved the testis, and 3 the ovary).

Finkelstein et al. (1969) proposed 2 kinds of management for testicular leukemic infiltration, namely surgery and radio-therapy.

In the present case, irradiation with Co-137 was given with obviously satisfying result and after 4 times of daily irradiation of 200 rads the testicles returned to normal size.

The rapid deterioration of the child resulting in a fatal outcome suggested that even during a state of remission, especially with clinically evident testicular involvement, particular attention should always be given to children with acute leukemia (Givler, 1969).

### Summary

A case of leukemic infiltration of the testes for the first time encountered in the Department of Child Health, Dr. Tjiptomangunkusumo

General Hospital, Jakarta, is presented.

The infiltration manifested itself during a state of bone marrow and hematologic remission after an intensive cyclic combined chemotherapy.

It showed that it is difficult to avoid testicular complication, as well as cerebral and meningeal leukemia.

The complications may reflect the longer survival due to the invention of new drugs.

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