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**CASE REPORT**

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**Hodgkin's Disease**

by

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**Abstract**

*A case of Hodgkin's disease in an 8-year-old Indonesian boy is presented. The treatment was started 2½ years after the first onset of the symptoms, consisting of vincristine, cyclophosphamide and prednisone. It seemed that this combination gave good results; after 12 weeks of treatment the lymphnodes disappeared and no new swellings developed. Despite the good results, continuous observation is necessary.*

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## Introduction

Hodgkin's disease is usually a chronic, advancing, ultimately fatal disease of unknown origin, manifested mainly by progressive enlargement of the lymphnodes and frequently of the spleen and liver, with invasion to other organs and tissues. The disease is often characterized later on by fever, anemia, and cachexia (Holvey and Talbott, 1972). A variety of etiologies has been thought of, like infective agents, chromosomal abnormalities, immunologic reaction abnormalities, hereditary disease, etc., but none have been established.

Clinically, this disease can be classified as suggested by the Rye Clinic (1965):

I. Localized disease (localized to a single lymphnode group or a single group).

II. Regional nodal disease (involvement of more than one lymphnode group, but limited by the diaphragm to either the upper or lower half of the body).

III. Bi-regional nodal disease (involvement of more than one lymphnode group in the upper and lower half of the body).

IV. Generalized systemic disease (involvement of bone marrow, bone, lung parenchym, pleura, liver, kidney, central nervous system, gastrointestinal tract and skin).

Each of these stages can be subclassified into, respectively, A — without

systemic symptoms, and B — in association with systemic symptoms, like fever, pruritus and weight loss.

Other classifications commonly used are those dealing with the pathological changes:

### I. Jackson and Parker's classification

- \* Hodgkin's paraganuloma,
- \* Hodgkin's granuloma,
- \* Hodgkin's sarcoma.

### II. Lukes and Butler's classification

- \* lymphocytic predominance,
- \* nodular sclerosis
- \* mixed cellularity
- \* lymphocytic depletion

The nodular sclerosis type is more frequently seen in stages I and II; the mixed cellularity and lymphocytic depletion in stages III and IV, while the lymphocytic predominance in all stages (Patchefsky et al., 1973). Other studies reported that lymphocytic predominance was more frequently seen in stages I and II (Brown, 1967, Keller and Castleman, 1970)). The finding of Reed-Sternberg cells on histological examination is pathognomonic for Hodgkin's disease.

The purpose of this study is to report a case of Hodgkin's disease in an 8-year-old Indonesian boy who has been treated with cyclophosphamide, vincristine and prednisone.

### Case report

M., an 8-year-old Indonesian boy, was admitted to the Department of Child Health, Dr. Cipto Mangunkusumo General Hospital, Jakarta, on September 26, 1974. He was sent by the Caltex Hospital, Pekanbaru, with the diagnosis of Hodgkin's disease, based on histological examination on December 16, 1972.

The history revealed that swellings appeared 2½ years ago at the left neck, increasing in size, which were neither painful nor red in color. He was then hospitalized in the Caltex Hospital because of these swellings and a biopsy of the lymphnode was performed. There was no information about drugs given, and irradiation had never been performed. Eight months ago new swellings appeared on the right neck and right inguinal region which also increased in size. There was moderate fever, a slight weight loss and, occasionally, the boy suffered from anorexia. The prenatal and antenatal history were uneventful. There was no history of a similar disease in the family.

Physical examination on admission revealed an 8-year old boy with a body weight of 20 kg., a body length of 115 cm., and a body temperature of 37.5° C. He did not look ill, was alert and in a sufficient nutritional state, but rather pale. Swellings were found on the neck bilaterally, in the left supraclavicular region, the right fossa iliaca, and the

right inguinal region, with sizes varying from a peanut to a marble. They were firm in consistency, painless on palpation, and not fixed to their surroundings (figure 1). The heart and lungs were normal. The abdomen was supple, the liver and spleen were not enlarged. Chest X-ray film showed an enlargement of paratracheal and mediastinal lymphnodes (figure 2).

Laboratory findings revealed: Hb. 9.4 gm.%; R.B.C. 2.38 mill./mm<sup>3</sup>; packed cells 21 vol.%; reticulocytes 16%; platelets 322,000/mm<sup>3</sup>; W.B.C. 9,800/mm<sup>3</sup>; differential count -/66/24/7; B.S.R. 73/112. The bone marrow smear was normal. Liver and kidney function tests were within normal limits. Tuberculin test was negative.

Histologic examination (figure 3) of the lymphnode biopsy specimen (P.A. no: 728706) showed the presence of Reed-Sternberg cells with nodular sclerosis or Hodgkin's granuloma. Treatment consisting of vincristine 1 mg. intravenously once weekly, and cyclophosphamide 100 mg. intravenously once weekly, was started immediately for a duration of 6 weeks as the first cycle. Ten days after starting the treatment, the swellings at the right fossa iliaca, right inguinal region and the neck decreased in size, and 20 days thereafter those at the right fossa iliaca disappeared.

During a 6-week period of observation the body weight increased to 20.5 kg; at times there was still anorexia.

Tuberculin test was still negative. Hemoglobin content varied between 8.0-9.9 gm.%; W.B.C. 4,200-9,800/mm<sup>3</sup>; platelet count was within normal limits. After 6 weeks of treatment the second bone marrow smear was still normal. The second cycle of treatment was continued and irradiation was not needed, since the treatment showed a good response so far.

The patient was discharged in a good condition 50 days after hospitalization and treated ambulatorily with the same schedule. Twelve weeks after the treatment had been started no swellings were observed. The second chest X-ray film showed no enlarged lymphnodes anymore (figure 4). At the last visit 3 months thereafter, the body weight was 21.5 kg.; Hb. 10.5 gm.%; W.B.C. 8,000/mm<sup>3</sup>; platelets 314,000/mm<sup>3</sup>. Vincristine, endoxan, and prednisone were then continued for the next cycle.

### Discussion

The onset of the first symptoms in this case appeared at the age of 5½ years. In general, Hodgkin's disease is rarely seen under the age of 8 years (Nelson, 1969; Slobody and Wasserman, 1968; Wintrobe, 1967), but Sutow et al. (1973) found that the peak frequency of Hodgkin's disease in children was at the age of 5½-9 years. Boys have been more frequently affected than girls, i.e. 4 : 1 (Wintrobe, 1967), 3 : 1 (Ma-

ner, 1969), 5 : 1 (Holvey and Talbott, 1972), and 3 : 1 (Rukmono and Samudin, 1961).

The clinical manifestation of Hodgkin's disease may appear as lymphnode enlargement, systemic reactions, and organ involvement. The first evidence is usually a painless swelling of one or more groups of superficial lymphnodes, often in the cervical region. They are usually fairly firm, discrete, and not fixed to the surrounding tissue. Progressive involvement of other nodes may follow, though the rate of extension varies considerably. These enlarged lymphnodes may produce local symptoms depending on the site of the affection like cough, dyspnea, cyanosis, engorgement of the neck vessels, ascites, icterus, ureteral obstructions, etc. The systemic symptoms of importance are fluctuating fever (Pel-Ebstein syndrome), pruritus, night sweating, and weight loss. As non-specific manifestations there may be malaise, weakness, vomiting, and nausea.

Splenomegaly and hepatomegaly are usually found in later stages. The symptom complex of unexplained fever, lymphnode enlargement (especially cervical), pruritus, and weight loss should suggest the possibility of Hodgkin's disease. Here, in our case the clinical manifestations consisted of lymphnode enlargements, weight loss, and occasionally, anorexia. Despite the enlarged cervical, paratracheal and mediastinal lymphnodes, he did not complain of any local

symptoms. Since there was no enlargement of the liver and spleen, we can draw a conclusion that we were not dealing with a later stage of the disease. Furthermore, according to the clinical classification of Rye Clinic, the patient belonged to the III B stage. The diagnosis of Hodgkin's disease in this case was based on the clinical findings confirmed by the presence of Reed-Sternberg cells in the lymphnode biopsy specimen. Since the histological picture was nodular sclerosis, it did not support the statement of Patchefsky et al. (1973) as mentioned earlier. Reed-Sternberg cells may be found occasionally in the blood and bone marrow (Maner, 1969; Slobody and Wasserman, 1968).

Some authors suggested that several examinations should be performed to establish the clinical diagnosis and staging, e.g. blood analysis, bone marrow examination and bone survey, plain abdominal X-ray examination and I.V.P., lymphangiography, and exploratory laparotomy when indicated. Anemia is common in the early stage of this disease. The W.B.C. count may be slightly or moderately increased or it may be normal. The number of monocytes and eosinophils may be increased, the number of lymphocytes may be relatively or absolutely decreased. B.S.R. is accelerated during the active phase of the disease, but may be normal in the period of remission. Frequently in the terminal phase there are thrombocytopenia, leucopenia (particularly lymphopenia), and

severe anemia. The peripheral blood examination in this case, as well as the bone marrow examination, were within normal limits.

Prior to 1960 the treatment was largely confined to the use of a single drug. With this single drug the complete response rate is tabled as follows (Goldsmith and Carter, 1974) :

Mechlorthamine hydrochloride	13%
Cyclophosphamide	12%
Chlorambucil	16%
Vinblastine	30%
Vincristine	36%
Procarbazine	38%
Methotrexate	0%
Prednisone	0%

Since 1960 various combinations of chemotherapeutics were applied, which gave better results :

1. Vincristine with chlorambucil and radiotherapy (Lachar and Durant, 1965); complete response rate was 62%.
2. Cyclophosphamide + Vincristine + Methotrexate + Prednisone (Moxley, 1972); complete remission was 86%.
3. Vincristine + Cyclophosphamide + Procarbazine + Radiotherapy (Lascart, 1972); clinical remission was seen in 38 out of 40 cases.
4. Nitrogen mustard + Oncovin + Procarbazine + Prednisone (MOPP); complete response rate was 81%

(Da Vita, 1970). Nixon and Aisenberg (1974) found that complete response rate was 91% in patients who had never been treated, and 71% in patients whom chemotherapeutics or radiotherapy had been given.

One course of treatment consists of 6 cycles of each combination, given intermittently in every other two weeks. The dose of each drug is as follows (Lascari, 1972):

- Vincristine, 10 mg./m<sup>2</sup> I.V. weekly for 12 doses
- Cyclophosphamide, 200 mg./m<sup>2</sup> I.V. weekly for 12 doses
- Procarbazine, 100 mg./m<sup>2</sup> orally daily for 28 days
- Prednisone, 40 mg./m<sup>2</sup> orally daily for 14 days
- After 12 weeks, continued with vincristine 1.5 mg./m<sup>2</sup> and cyclophosphamide 300 mg./m<sup>2</sup> I.V. every 2 weeks, for 2 years after initial treatment.

Some authors mentioned that radiotherapy gave good response, particularly in a localized affection (stage I and II). Better results were seen in cases of soft lymphnodes, due to the abundant

supporting tissue consisting of lymphocytes which are very radiosensitive. Surgical intervention is done mainly when there is a risk of pressure on vital organs.

Our patient had been treated with a combination of vincristine, cyclophosphamide, and prednisone; procarbazine was not available at that time, although we intended to treat the patient as suggested by Lascari (1972). After 12 weeks of treatment the cervical, paratracheal, and mediastinal lymphnodes disappeared, and no new swelling developed. However, we could not make any conclusion yet, since it must be proved after a long duration of observation. The prognosis depends on the progression of the disease (according to staging), clinical manifestations, and histological changes. The survival rate is better in females than in males (Patchefsky et al., 1973).

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FIG. 1.

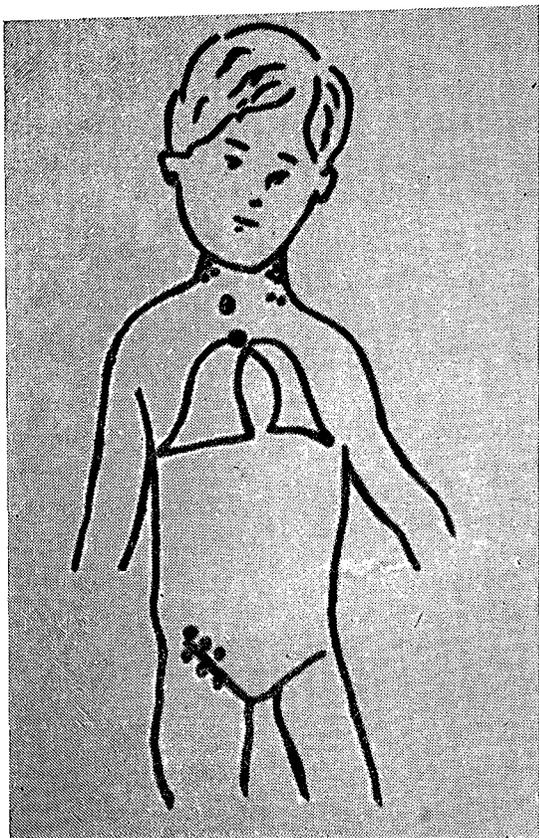


FIG. 2.

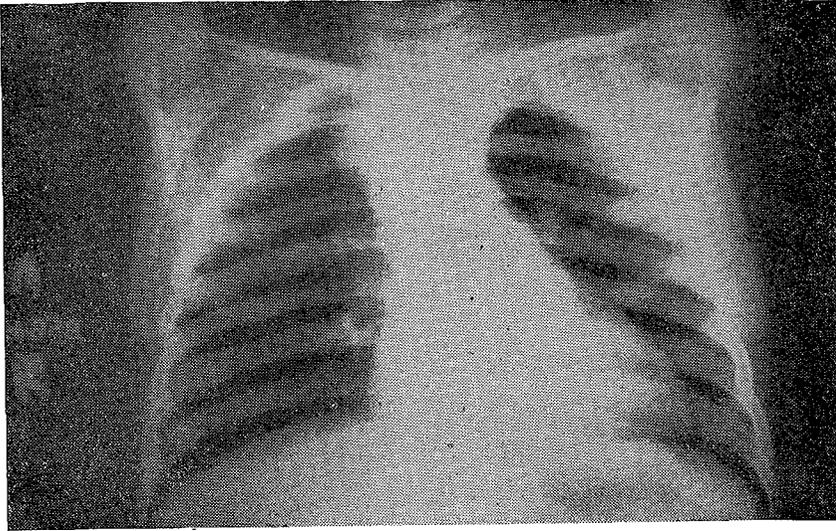
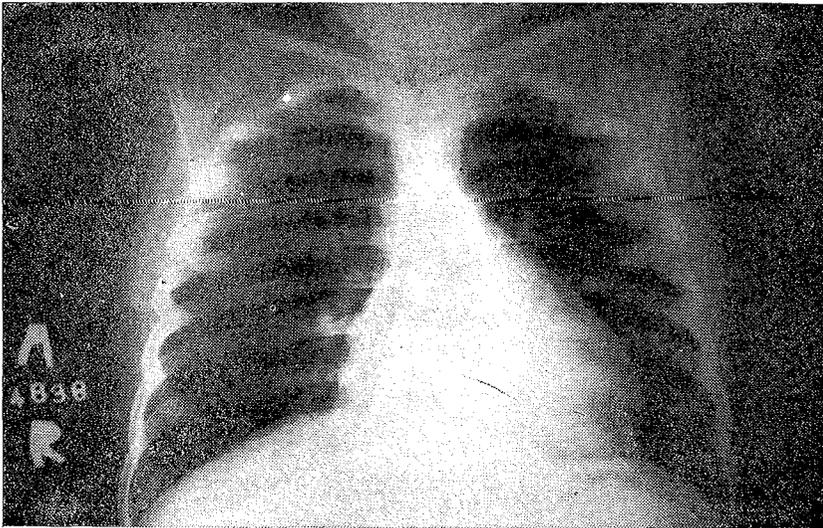


FIG. 3.



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