Hodgkin’s Disease in Childhood

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Summary. The histopathologic study of 103 patients with Hodgkin’s disease including 5 cases who had staging laparotomy during the last 10 years were reviewed. The following conclusions were drawn:

1. No significant sex difference among subtypes were noted.
2. Associated glomerulopathy, nephrotic syndromes, and amyloidosis were occasionally found.
3. In childhood lymphomas excluding leukemia are the most frequent malignacies. Among the lymphomas, Hodgkin’s disease predominates.
4. The most frequent subtype both in the original biopsy and after staging laparotomy was mixed cellularity. The nodular sclerosis type was the rarest. The subtypes generally did not change in the subsequent biopsies and in laparotomy done up to 6 months later.
5. It is most frequently noted in cervical area. Males are affected more than females. The peak incidence was in the first decade of age group.

A brief review of the literature and discussion on the comparison of data from other countries is given.

Key words: Hodgkin’s disease – Nodular sclerosis – Histopathology – Lymphocyte depletion – Lymphocyte predominance

Many reports from various states of the world have reported a higher incidence of Hodgkin’s disease than in western countries during the last decade (Azzam, 1966; Solidoro, 1966; Butler, 1969; Chaves 1973). Albujar (1973) reported 20 cases of Hodgkin’s disease in Peru between 1960 and 1970. He found that the majority of cases were of the histologic types associated with poor prognosis, and clinically most of the patients presented in advanced stages. A similar study was reported from Argentina by Braylan (1973). In his study he applied Rye classification to 144 cases of Hodgkin’s disease in Buenos Aires, Argentina. Another study about the epidemiologic pattern of Hodgkin’s disease in Cali, Colombia was reported in 1971.

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by Correa and O’Conor. In a previous study from Iraq (Alsabti, 1976), it was found that 59% of malignant lymphomas in children under 16 years of age were Hodgkin’s disease. The clinical and morphological peculiarities of the disease suggest that it possesses both neoplastic and infectious components. A varying degree of the presence of these components from case to case and the correlation of these different histological pictures to the prognosis have directed researchers to make a new histological typing of Hodgkin’s disease (Lukis, 1966). This is commonly used in recommendations of the pathology and Nomenclature Committee on Hodgkin’s disease and is known as the “Rye” classification (Robbins, 1974).

The present study reports on a series of 103 unselected cases of Hodgkin’s disease to which the Rye classification was vigorously applied. The study relates the frequency of histologic types to sex and age, as well as survival. To test the reproducibility of the classification, two pathologists carried out the histologic evaluation of the cases independently.

### Materials and Methods
The histological material and clinical records of 169 cases, under 16 years of age, which were diagnosed as lymphomas in the pathology department of our medical centers (Medical City, Basrah Hospital, Mosul Hospital, Yermok Hospital, Alteflalarabie Hospital and Alsamawa Hospital) between 1965 and 1975 have been reviewed and reclassified. The pathology departments of these centers cover most of the northern, central and south part of the country. They make up 90% of all cases. Each tissue material was examined by two expert pathologists independently, making the rate of error in diagnosis very small. All cases were unselected for the study. There were 103 cases with clearcut Hodgkin’s disease. They were reviewed and subtyped according to Rye classification. Fifteen cases with inadequate recorded reports were excluded from the study. All tissue samples were fixed in formalin and Zenker’s solutions, sectioned at 4–6 microns and stained with hematoxylin and eosin. In subtyping, the nodular sclerosis was also examined under polarized light. The frequency of Hodgkin’s disease in childhood malignancies was determined by studying the frequency of cases between 1970 and 1975 in order to obtain a relatively homogenous material. There were 719 malignant tumors, 82 of which were Hodgkin’s disease. Lukes criteria (1966) were used in subtyping into the following:

1. Lymphocytic predominancy (LP); histologically the lymph nodes are invaded with lymphocytes and reactive histiocytes, diffusely or in a nodular pattern. The lymph node looks similar to lymphocytic lymphoma or chronic lymphocytic leukemia. Reed-Sternberg cells are rarely found.

2. Lymphocytic depletion (LD); this group is composed of several histologic expressions of Hodgkin’s disease that have in common lymphocytic depletion, and these include diffuse fibrosis and reticular types, observed by Lukes (1966), and sarcomatous type reported by Jackson (1944). The Reed-Sternberg cells are a constant feature in all subtypes of the disease.

3. Nodular sclerosis (NS); with two histological features: a) Birefringent dense bands of collagen which extend into the nodes from the capsule and b) the tendency for the Reed-Sternberg Cells to assume the lacunar morphology.

4. Mixed cellularity (MC); The histopathology of the lymph node resembles a reactive inflammatory process except for the destruction of the normal reticulum cells structure. There are lymphocytes, histiocytes, neutrophils, eosinophils and plasma cells. The necrosis and fibrosis are found in varying degrees.

### Results
The youngest age was 1½ and the oldest 16 years. Between these two ranges, there were patients in every age group. The peak incidence was between 7 and 9 years of age.

The male to female ratio was 3.1/1 (70 males and 33 females). There was no statistical significance in the distribution of the subtypes according to the sex.