

# Immune Thrombocytopenia as a Presenting Manifestation of Hodgkin's Lymphoma

## *Hodgkin Lenfomanın Başlangıç Bulgusu Olarak İmmün Trombositopeni*

### Abstract

Autoimmune hematological disorders may be the initial indicator of an underlying Hodgkin lymphoma (HL). Immune thrombocytopenia (ITP) can manifest before, during, or after the diagnosis of HL, and concurrent thrombocytopenia can complicate the diagnosis and initial treatment of the malignancy. Various autoimmune disorders have been described in patients with HL, including ITP, autoimmune hemolytic anemia, autoimmune neutropenia, systemic lupus erythematosus, and scleroderma. An underlying HL should be considered in the differential diagnosis of a pediatric patient with ITP. In this report, we present the case of a 5-year-old boy who had thrombocytopenia and fever at the time of his HL diagnosis. Based on bone marrow aspiration and evaluation, we diagnosed immune thrombocytopenia and administered treatment with intravenous gammaglobulin. The platelet count normalized within a few days of treatment.

**Keywords:** Hodgkin's lymphoma; immune thrombocytopenia; child

### Öz

Otoimmün hematolojik bozukluklar altta yatan bir Hodgkin lenfoma (HL) için ilk gösterge olabilir. İmmün trombositopeni (ITP), HL tanısı öncesinde, sırasında veya sonrasında ortaya çıkabilir ve eş zamanlı trombositopeni teşhisi ve malignitenin başlangıç tedavisini karmaşık hale getirebilir. HL'li hastalarda otoimmün hemolitik anemi, İTP, otoimmün nötrojeni, sistemik lupus eritematozus ve skleroderma gibi çeşitli otoimmün bozukluklar tanımlanmıştır. İTP'li bir çocuk hastanın ayırıcı tanısında gizli bir HL düşünülmelidir. Bu çalışmada HL tanısı sırasında trombositopeni ve ateş görülen 5 yaşındaki bir erkek hastayı sunmaktayız. Kemik iliği aspirasyonu ve değerlendirmesine dayanarak immün trombositopeni teşhis ettik ve intravenöz gamaglobulin tedavisi uyguladık. Trombosit sayısı tedaviyle birkaç gün içinde normale döndü.

**Anahtar Sözcükler:** Hodgkin lenfoma; immün trombositopeni; çocuk

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## INTRODUCTION

Different types of immunologic abnormalities such as autoimmune hemolytic anemia, ITP, and immune neutropenia have been described in patients with HL (1,3). These can be observed prior to the clinical findings of HL, at the time of diagnosis or during the course of HL, or after the treatment. Isolated ITP is a rare condition (2,4), with a presumed prevalence of 0.76% in lymphoma and 1–1.5% in HL (2).

In this report, we aimed to present a pediatric patient with HL accompanied by thrombocytopenia at admission.

## CASE

A five-year-old boy presented to our emergency service with the complaint of fever for the last few days, but had no recent history of infection or drug use. The physical examination revealed hepatosplenomegaly as well as lymphadenomegaly in the left posterior cervical and right supraclavicular areas, but there was no petechia, purpura, ecchymosis, or jaundice. The laboratory findings were as follows: hemoglobin 9.4 gr/dl; hematocrit 30.9%; platelet 8.000/mm<sup>3</sup>; leukocyte 12.970/mm<sup>3</sup>; C-reactive protein 6.3 mg/dl (N:0-5); erythrocyte sedimentation rate 14 mm/hour (N:0-25); lactate dehydrogenase 361 U/L (N:110-295). Peripherally spread, erythrocyte series showed mild anisocytosis, hypochromia, and polychromasia, but no evidence of hemolysis. In platelet series, there was a significant decrease in number, and large volumes of platelets were seen. The positive viral markers of the patient were EBV-IgG and CMV-IgG, indicating previous infections. Radiological evidence showed that there was bilaterally located mediastinal mass in the two-dimensional chest X-ray. Whole-body scanning performed through computed tomography revealed numerous lymphadenomegalies, especially in the right inferior, posterior cervical, and right supraclavicular areas in cervical tomography. There were conglomerate lymph nodes, the largest of which sized approximately 44x26 mm in the anterior and middle mediastinal area in thoracic CT, while abdominal CT revealed hepatosplenomegaly and hypodense lesions in the spleen parenchyma. The patient's clinical,

laboratory and radiological findings of cytopenia, diffuse lymphadenomegaly, hepatosplenomegaly, and mediastinal mass necessitated bone marrow aspiration due to the possibility of malignancy infiltrating bone marrow. No malign infiltration, but hyperplasia in erythroid series and increased megakaryocytes were detected. Accordingly, a diagnostic excisional lymph node biopsy was scheduled. The patient was given thrombocyte suspension (10cc/kg) for three times prior to the procedure. Despite this treatment, his platelet count increased slightly to 36.000/mm<sup>3</sup>, remaining below the minimal safe level (50.000/mm<sup>3</sup>) recommended for the surgical procedure. The patient's direct coombs test result was negative and the bone marrow aspiration findings were compatible with immune thrombocytopenia. Accordingly, single dose intravenous immunoglobuline (IVIG) (0.8 cc/kg) was administered. The control platelet count after 24 hours was 80.000/mm<sup>3</sup>, and the biopsy could be performed. The platelet count increased to 109.000/mm<sup>3</sup> on the second day and 129.000/mm<sup>3</sup> on the third. The biopsy material obtained from the right supraclavicular lymph node revealed nodular sclerosing classical Hodgkin lymphoma.

## DISCUSSION

The association of autoimmune diseases with non-HL and HL has already been reported; however, its nature is still unclear due to the rarity of the phenomenon (4,5). ITP can be seen both in children and adults, but is more frequent in children. Although patients with HL rarely develop autoimmune cytopenia, especially anemia and thrombocytopenia (1,4), the incidence of HL-related ITP and AIHA are reported to be 1.5% and 2.7%, respectively, much higher than the ITP and AIHA incidence in general population (1).

The most common etiologies of thrombocytopenia in patients with HL are hypersplenism, drug use, bone marrow infiltration, and systemic infections (2). These were excluded in our case through anamnesis and examination; and one remaining possible cause was immune thrombocytopenia.

ITP has been reported in all histological subtypes of HL, both localized and extensive (1,3). It can progress in patients with HL independently of the lympho-

ma (1). It has been documented in many studies that the clinical presentation of ITP occurs after the diagnosis of HL. Its prognosis is related to the presence of an underlying lymphoma (1). We preferred IVIG therapy in our case because we did not know the type of the underlying malignancy. Unlike the reports in the literature, ITP developed prior to the HL diagnosis in our case and responded well to the treatment.

As a result, ITP can, though rarely, be the first finding of HL. Therefore the possibility of underlying HL should be taken into consideration in any patient who presented with the clinical findings of ITP, especially when arranging the treatment. We think that corticosteroid treatment should be postponed in patients with suspected lymphoma until the presence and type of the lymphoma are determined.

#### **Statement of Conflict of Interest**

The authors declare that there is no conflict of interest.

#### **Statement of Financial Support**

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#### **Patient Consent**

Written informed consent for publication of this report was obtained from the parents of the patient.

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