

## Inguinal Lymphadenitis in Adolescent with Hodgkin's Lymphoma

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**Received:** April 20, 2018; **Published:** May 24, 2018

### Abstract

Hodgkin's lymphoma is a rare malignancy with incidence of approximately 2.4 per 100,000 cases per year. Classification of the lymphoma according to WHO distinguishes two basic discrete entities: Hodgkin's lymphocytic lymphoma and classical Hodgkin's lymphoma. The major sites of localization are jugular and supraclavicular lymph nodes while the inguinal area is a rare site of localization. Hodgkin's lymphoma may manifest as a thoracic wall abscess, cutaneous abscess, liver abscess, pulmonary abscess or even abscess in the spleen.

**Case Study:** Adolescent 14 years old men presented to ER with inflammation of the inguinal lymph node of left groin with cellulitis extending to the left fetus. Redness reported at the inguinal area such as swelling of the inguinal lymph nodes three days prior to the insertion.

According to ultrasound of left groin, multiple inflated inguinal lymph nodes were observed with complete elimination of the portal, spherical shape, subunital internal structure and increased vasculature. New ultrasound examination after antibiotic treatment revealed group of four swollen inguinal lymph nodes. Lymph node biopsy found complete cleavage of the lymph node architecture and infiltration by atypical Hodgkin mononuclear or binuclear cells compatible with Hodgkin's lymphoma.

**Conclusion:** The evaluation of the possible presence of lymphoma in a patient with interstitial lymphadenitis should always be evaluated especially in patients do not show complete improvement after antibiotic treatment.

**Keywords:** Hodgkin's Lymphoma; Nodular Classic Lymphoma; Lymphadenitis; Inguinal Lymphadenitis

### Introduction

The human body has about 600 lymph nodes scattered in several places [1]. Apart from the main lymph nodes there are other elements of the lymphatic tissue and their role is to clean the antigens from the extracellular fluid. The lymph nodes are deep in the subcutaneous tissue and can be palpated when growing by any cause.

A lymph node has a normal size that is usually less than 1 cm in diameter. There are exceptions to lymph nodes in different areas of the body. For example, some authors suggest that an inguinal lymph node may be up to 1.5 cm in size can which be considered normal, while in other cases the size may be between 0.5 to 2 cm.

Generally, normal lymph nodes are larger in children (ages 2 - 10). Size greater than 2 cm indicates malignancy (i.e. lymphoma) or granulomatous disease (such as tuberculosis) [2].

Based on different geographic region may be different cause. For example, tuberculosis (TB) of the cervix is the most common cause of inguinal lymphadenitis in endemic African areas [3-6]. Nevertheless, in a large number of studies the most common benign causes are non-specific reactive changes in the lymph nodes [7-9].

### Case Study

Adolescent 14 year old male patient presented to ER department with inflammation of the inguinal lymph node in the left inguinal region with accompanying extended cellulitis to left fetus. Redness and accompanying swelling of the inguinal lymph nodes were reported three days before. According to medical history reported father's loss due to testis cancer and hemophagocytic syndrome.

From the clinical examination, enlarged inguinal lymph nodes were reported. Laboratory tests revealed: WBC: 9800/ $\mu$ L, I: 69.7%, L: 33.9%, M: 7.2%, Hgb: 13 g/dl, Hct: 40.2%, MCV: 98.5 fl, PLT: 228000/mm, CRP 53.3 mg/l, Glu: 95 mg/dl, Ur: 12 mg/dl, Cre: 0.2 mg/dl, SGOT: 48 IU/L, SGPT: L, K: 5.8 mmol/L, Cl: 102 mmol/L, LDH: 320 U/l, Mantoux (-). Chest X ray was normal without mediastinum enlargement. All immunoassays to investigate microbial agents were negative, while abdominal ultrasound was normal.

Ultrasound analysis in the left inguinal region revealed multiple inflated inguinal lymph nodes with complete elimination of the portal, spherical shape, subuniform internal structure with increased vasculature and maximum dimension of 5 \* 3.7 cm.

Patient received iv treatment with cefotaxime and clindamycin. During 7<sup>th</sup> day of treatment revealed disseminated Red Man Syndrome (PMS) and clinical improvement in the size of the lymph nodes. Cefotaxime was discontinued and iv cortisone was given. Peros clindamycin continued for another 7 days with complete retreat of cellulitis.

New ultrasound examination after antibiotic treatment presented group of four inflated inguinal lymph nodes with maximum diameter of 4.5 x 3.7 cm. Biopsy of swollen lymph nodes established. Complete lymph node infiltration by the informal mononuclear or Hodgkin's binuclear cells were detected settled the diagnosis of Hodgkin's lymphoma. CT scan followed by PET-scan did not show increased cell function or lymph node enlargement in other areas of the body. Patient received three cycles of chemoprotection with gradual improvement and normalization of lymph node size.

### Discussion

Studies have shown that the prevalence of malignancy is less than one to 100 patients with generalized lymphadenopathy [10]. The imaging techniques can recognize the size and distribution of lymph nodes more accurately than physical examination. Ultrasound is a non-invasive method used in various superficial areas including cervix [11]. Computed tomography (CT) is useful for the determination of lymphadenopathy of chest cavity or the abdominal cavity while in several cases diagnosis settled by needle biopsy [12,13].

Hodgkin's lymphoma is a rare malignancy; with an incidence of approximately 2.4 per 100,000 cases per year [13,14]. Classification of the WHO lymphoma disorder distinguishes two major entities: Hodgkin's lymphocytic lymphoma and Hodgkin's classical lymphoma. Classical Hodgkin's lymphoma is divided into four subtypes, with the nodular sclerosis form being a variant of the classical Hodgkin lymphoma occurred in most cases [14]. Dominant symptom is lymphadenopathy usually in the jugular and the supraclavicularis area.

Pruritus and intermittent fever usually associated with night sweats are classical symptoms of Hodgkin's lymphoma [14]. It has been reported that Hodgkin's lymphoma may be revealed such as a thoracic wall abscess [15], cutaneous abscess [16], hepatic abscess [17], pulmonary abscess [18] or even abscess spleen splenic [19]. Additionally, lymphadenopathy in Hodgkin's lymphoma could be misdiagnosed such as clinical manifestation of abscess especially in the cervix [20].

Hodgkin's lymphoma is a rare malignancy, with a incidence of about 2.4 per 100,000 a year. Florentine and Cohen found in their case report that the FNA biopsy obtained after lymphadenitis initially showed signs of acute inflammation evolved later in Hodgkin's disease with cytological identification of neoplastic Hodgkin and Reed-Sternberg cells [21]. The course is likely because it is difficult to detect mononuclear and Reed-Sternberg cells [22].

Diagnosis of classic Hodgkin's lymphoma in nodular sclerosis (NSCHL) or non-fine needle biopsy (FNA) remains a diagnostic challenge. According to this case study and other already published reports there are potential difficulties in Hodgkin's lymphoma (HL) diagnosis. Fine needle trap (FNA) settled the diagnosis of Hodgkin's lymphoma (HL) even if diagnosis may be difficult when Hodgkin and Reed-Sternberg classical cells (HRS) are rare or absent [11,12].

### Conclusion

Success in the treatment of adolescents with HL has increased life expectancy. Presence of lymphoma in a patient with interstitial lymphadenitis should always be evaluated especially in patients do not revealed improvement by taking antibiotic treatment.

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**Volume 7 Issue 6 June 2018**

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