

## Extranodal Non-Hodgkin's Lymphoma in HIV

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### Abstract

Lymphoma in acquired immunodeficiency syndrome (AIDS) is associated with frequent involvement of extra-nodal sites, rapid clinical progression and aggressive histology. We present a case of extra nodal non-Hodgkin's lymphoma (NHL) with probable multifocal involvement.

**Keywords:** Lymphoma, HIV, etranodal.

### Introduction

The definition of primary extranodal lymphoma is controversial, particularly in the presence of both nodal and extranodal disease. Dawson in 1961 proposed criteria to define primary gastric lymphoma as presentation with main disease manifestation in stomach, with or without involvement of regional lymph nodes.<sup>1</sup> Later these criteria were extended to allow for contiguous involvement of other organs. The inclusion among primary extranodal lymphomas of cases presenting with stage III and IV is also questionable and several authors consider only stage I and II presentation as primary extranodal disease. The extranodal lymphomas represent a challenge in routine lymphoma diagnosis, due to the variety of histological types, molecular abnormalities and clinical pictures that can be present.

The overall percentage of NHL described as being of extranodal origin is between 25% and 35% in most studies.<sup>2</sup> Moreover, in comparison with nodal presentation, B- and T-cell lymphomas diagnosed at extranodal sites may have quite different outcomes. The most frequent histotype presenting with extranodal localization is that of mucosa-associated lymphoid tissue lymphomas.

### Case Report

A 67 year old male with no co-morbid illnesses presented with progressive weakness and weight loss over one month. This thin lean gentleman had multiple sexual partners. He was tachycardic and hypoxic on examination with an oral thrush. No lymphadenopathy or hepatosplenomegaly was noticed. Serological test for human immunodeficiency virus (HIV) was found positive. His CD4 count was 75 cells/microL. Investigations also

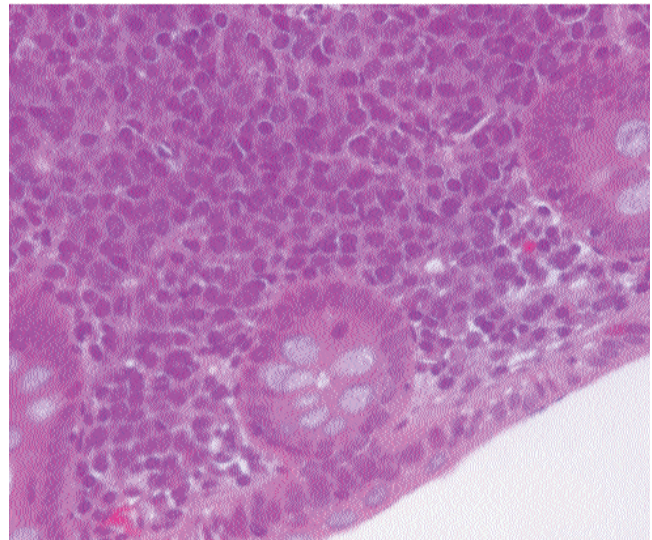


Figure: High magnification showing medium to large sized lymphocytes with dispersed chromatin.

revealed platelet count of 28,000/ml, elevated Lactate dehydrogenase 1226 units/l, creatinine 2.4mg/dl, WBC count of 7000 cells/microL with 24% bands. Coagulation profile, liver function tests, hepatitis serology, serum calcium and albumin were normal. CT scan of chest, abdomen and pelvis were also normal.

Raised Lactate dehydrogenase and worsening renal function made us suspicious of thrombotic thrombocytopenic purpura (TTP) but few schistocytes on blood smear, normal serum bilirubin and serum haptoglobin argued against TTP. Thrombocytopenia was attributed to AIDS and patient was empirically placed on highly active antiretroviral therapy (HAART) and antibiotics. The sepsis workup, however, remain negative. Subsequently patient started having anaemia and gross haematuria. Thrombocytopenia did not show any improvement with empirical steroids. Anaemia and leucopenia were also worsening. By then his LDH level had increased to 4814 units/L. He later started having malena. While the upper G.I endoscopy was unremarkable, colonoscopy revealed erythematous caecum. Bone marrow biopsy was planned to evaluate for deteriorating blood counts but patient refused. His

condition deteriorated and he passed away in the next few days. No autopsy was performed on family's request. Biopsy results of colonoscopy were received after the death of patient. There was dense atypical lymphoid infiltrate in the lamina propria of caecum. Immunohistochemistry was positive for CD20, CD10 and LCA. The overall morphological features and immunohistochemical staining pattern was consistent with a diagnosis of aggressive B cell lymphoma (Figure).

The patient was a case of aggressive B cell extranodal NHL associated with AIDS. Although the extranodal spread primarily involved the gastrointestinal system but rapidly evolving pancytopenia points toward bone marrow involvement as well.

### Discussion

AIDS associated non-Hodgkin's lymphoma is a late event of HIV infection and is associated with life threatening complications.<sup>3</sup> While the incidence of Kaposi sarcoma and primary central nervous system lymphoma has dropped markedly since the introduction of HAART therapy in 1995, systemic non-Hodgkin's lymphoma appears to be declining with a lesser degree.<sup>4</sup> Data of AIDS associated malignancies is scarce in subcontinent. Agarwal et al. reviewed the Tata Hospital Registry for AIDS associated lymphoma and noticed 35 cases over a period of 8 years; out of whom seven cases were of Hodgkin disease, four of plasmacytoma and 24 cases were of NHL (three Burkitt's lymphoma, four diffuse large B-cell lymphoma of centroblastic type, 10 immunoblastic type, four high-grade B-cell lymphoma [unspecified] and

the remaining were other subtypes).<sup>5</sup> Approximately one-third of NHL arises primarily from sites other than lymph nodes, spleen or the bone marrow most commonly stomach, skin, brain or small intestine.<sup>6</sup> Localization of gastrointestinal lymphoma in AIDS patient is quite different from general population. Furthermore, multifocal occurrence is noticed in 22.9% of the cases. The survival rate of HIV patients with GI lymphoma has improved markedly with HAART therapy. Several studies have shown that patients on HAART receiving chemotherapy achieve a better response rate, reduced risk of opportunistic infections and prolonged survival as compared to patients on chemotherapy alone.<sup>7</sup>

### Reference

1. Dawson IMP, Cornes JS, Morrison BC. Primary malignant lymphoid tumours of the intestinal tract. Report of 37 cases with a study of factors influencing prognosis. *Br J Surg* 1961; 49: 80-9.
2. Newton R, Ferlay J, Beral V, Devesa SS. The epidemiology of non-Hodgkin's lymphoma: comparison of nodal and extranodal sites. *Int J Cancer* 1997; 72: 923-30.
3. Cheung MC, Pantanowitz L, Dezube BJ. AIDS-related malignancies: emerging challenges in the era of highly active antiretroviral therapy. *Oncologist*. 2005; 10: 412-26.
4. Gates AE, Kaplan LD. AIDS malignancies in the era of highly active antiretroviral therapy. *Oncology* 2002; 16: 657-65.
5. Agarwal B, Ramanathan U, Lokeshwar N, Nair R, Gopal R, Bhatia K, et al. Lymphoid neoplasms in HIV-positive individuals in India. *J Acquir Immune Defic Syndr* 2002; 29: 181-3.
6. Zucca E, Roggero E, Bertoni F, Cavalli F. Primary extranodal non-Hodgkin's lymphomas. Part 1: Gastrointestinal, cutaneous and genitourinary lymphomas. *Ann Oncol* 1997; 8: 727-37.
7. Vaccher E, Spina M, Talamini R, Zanetti M, di Gennaro G, Nasti G, et al. Improvement of systemic human immunodeficiency virus-related non-Hodgkin lymphoma outcome in the era of highly active antiretroviral therapy. *Clin Infect Dis* 2003; 37: 1556-64.