



Contents lists available at ScienceDirect

## International Journal of Surgery Case Reports

journal homepage: [www.casereports.com](http://www.casereports.com)

# Right iliac fossa lymphoma in an HIV positive patient: A diagnostic dilemma

Joseph Sinnott<sup>a</sup>, Danial Natin<sup>a</sup>, Paul Foster<sup>b,\*</sup><sup>a</sup> Conquest Hospital, St Leonard's Road, Hastings, East Sussex, United Kingdom<sup>b</sup> Eastbourne District General Hospital, King's Drive, East Sussex, United Kingdom

## ARTICLE INFO

## Article history:

Received 24 November 2015

Received in revised form 19 February 2016

Accepted 19 February 2016

Available online 3 March 2016

## Keywords:

Lymphoma

HIV

Case report

Diagnostics

## ABSTRACT

Lymphoma should be considered early in patients with HIV when there is a history of weight loss. Although B-cell lymphoma is an AIDS-defining cancer, and many reports of lymphoma in HIV positive patients exist in the literature, this case report illustrates that even in patients with well-controlled HIV the diagnosis must be considered, and puts forward an unusual presentation in an otherwise asymptomatic patient.

A 52 year old woman presented for a routine HIV follow-up appointment and was found to be experiencing weight loss. An abdominal examination revealed a right iliac fossa mass. Subsequent CT thorax, abdomen, pelvis imaging confirmed a large mass but did not allow determination of the primary source. Serological tumour marker investigations were unyielding. Trans-vaginal ultrasound guided biopsy of the mass demonstrated diffuse large B-cell lymphoma.

This case report emphasises the importance of having a high index of suspicion for these cancers even in patients with low viral load who are on anti-retroviral treatment. It also demonstrates the importance of taking a multidisciplinary approach to diagnosis of the condition to enable prompt treatment and thus improve the outcome for the patient.

© 2016 The Authors. Published by Elsevier Ltd. on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 1. Introduction

Diffuse large B cell lymphoma is known to arise in the general population, as well as in patients who are HIV positive. However, some types of lymphoma, such as plasmablastic lymphoma of the oral cavity, are much more specific to HIV positive patients. Lymphoma can arise in a wide variety of anatomical locations and cases of GI lymphoma in HIV positive patients are well documented [1].

The incidence of lymphoma in HIV positive patients has decreased in recent years, which is presumed to be due to more effective anti-retroviral therapy. Also, the type of lymphoma seen is changing with non-cleaved lymphoma becoming less common and diffuse large B-cell lymphoma becoming more common. However, despite the effectiveness of modern anti-retroviral therapy, there does not seem to be a great change in the survival of patients with HIV who are diagnosed with lymphoma [2]. This case illustrates the need for the diagnosis to be considered early on in patients with HIV, even those who are on HAART and who present with well-controlled HIV.

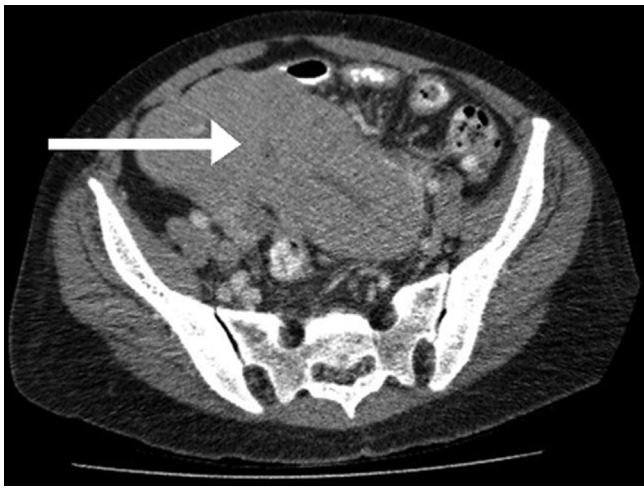
## 2. Presentation of case

A 52 year-old lady attended a HIV regular review appointment and was found to have experienced significant weight loss. The patient had lost 12 kg (20% of her original body weight) over the last year. At first, this had been gradual and the patient stated that it was intentional. However, over recent months it appeared to have accelerated. The patient had no other symptoms and was feeling well. Specifically, there was no change in bowel habit, no blood in her stool and no gynaecological symptoms. There was no history of fevers or night sweats. The patient had well-controlled HIV (viral load <40 and count CD4 290). Abdominal examination revealed a palpable mass in the right iliac fossa (RIF). Biochemical investigation demonstrated that the haemoglobin concentration had dropped from 13 g/dL to 10 g/dL and that lactate dehydrogenase (643 U/L) and CRP (80 mg/L) were raised. The white cell count was normal.

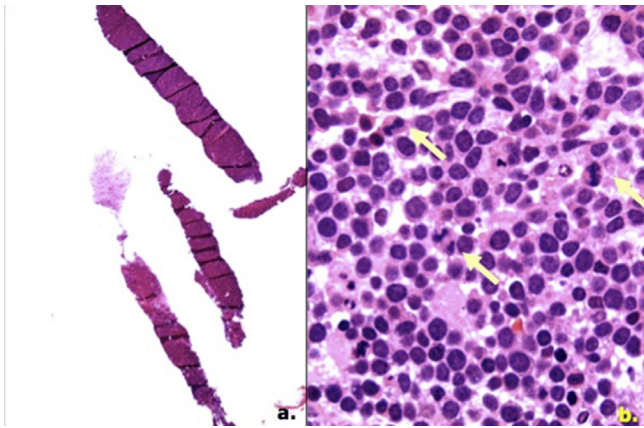
The past medical history included a hysterectomy for micro-invasive carcinoma of the cervix in 2002. However this was carried out at a different hospital and no notes were available. Following the finding of a RIF mass, an urgent CT thorax, abdomen and pelvis was requested which showed a 15 cm mass (Fig. 1) possibly arising from the vaginal wall and which may have had a communication with the caecum via a fistula. Mesenteric nodes were seen measuring up to 27 mm, however there was no evidence of metastases

\* Corresponding author. Present address: Eastbourne District General Hospital, King's Drive, East Sussex, United Kingdom.

E-mail address: [pkm.foster@doctors.org.uk](mailto:pkm.foster@doctors.org.uk) (P. Foster).



**Fig. 1.** A CT scan showing a pelvic mass. Arrow points to approximate midpoint of the mass, which at this point was 14 cm at the widest diameter.



**Fig. 2.** The histological results of a transvaginal ultrasound guided punch biopsy. (a) tru-cut biopsies of lymphoid tissue. (b) High magnification right showing small to intermediate sized lymphoid blasts with numerous mitotic figures (arrows).

in the liver, lung or bone. From the CT alone it was difficult to determine the origin of the mass. Biochemical serum profiling of the tumour was also unyielding (CA19-9, CAE and CA 125 were all negative).

A transvaginal ultra-sound guided punch biopsy was taken (Fig. 2) and histological analysis plus immunohistochemistry was performed. Tumour cells were >90% positive for Ki67 (a nuclear proliferation marker) and were confirmed to be CD20 positive B-cells of germinal center phenotype (Bcl6, Bcl10 + ve). The cells were negative for the Pan T-cell markers CD3, CD5 and Cyclin D1. This allowed a diagnosis of high-grade B-cell lymphoma.

The patient was treated with 'R-CHOP' therapy: Rituximab, cyclophosphamide, doxorubicin, vincristine and prednisolone, every 21 days for 6–8 cycles. At the time of writing this report the patient was undergoing treatment.

### 3. Discussion

Lymphoma is more common in people with HIV compared with the general population [3] and it is the second most common cancer in HIV positive patients (second to Kaposi's sarcoma). It is an AIDS-defining illness regardless of the CD4 count and viral load. The subtype of lymphoma in this patient was found to be diffuse large B-Cell lymphoma, which has been shown to be the most common type of lymphoma in HIV positive patients [4]. There are a num-

ber of proposed reasons for the increased incidence of lymphoma in HIV positive patients such as hyper-activation of lymphocyte turnover and decreased immunity to viruses such as Epstein-Barr virus [5]. However, HIV is not the only risk factor for developing lymphoma and a number of other exposures are also thought to increase the likelihood of diffuse large B-cell lymphoma including *Helicobacter pylori*, hepatitis C and some pesticides [6].

A recent study from South Africa showed that large B cell lymphoma presents at a significantly younger age in those with HIV. The study also contributed to evidence that the survival of those with HIV and lymphoma is much worse than those with lymphoma who do not have HIV [7].

For a patient presenting from the general population with a raised CRP and a right iliac fossa mass there are a number of primary differentials. These include gynaecological, gastrointestinal and urological causes. One could also categorise differentials into malignant, benign and infectious. Much further down the list of differentials is lymphoma. However with the background of weight loss and HIV this differential should have been higher on the list.

A CT scan allowed us to identify the size and location of the mass and rule out major metastases. However, the scan did not allow determination of the primary source of the mass. Serological tumour marker assessment inconclusive. However, lactate dehydrogenase was elevated and CRP was also elevated which is a picture consistent with lymphoma. It has been shown that an increased lactate dehydrogenase at presentation of lymphoma is a poor prognostic sign. Eventually it was a biopsy plus immunohistochemistry that eventually provided a definitive diagnosis.

Weight loss is a 'red flag' symptom for malignancy and lymphoma is common in people with HIV. It is therefore imperative that lymphoma should be considered early in people with lymphoma. In practice the general medical knowledge that lymphoma is increased in HIV positive patients is not widespread. Clinicians making the link sooner will potentially help many patients, especially where the patient is HIV positive. Furthermore, if a patient is found to have lymphoma, a HIV test could be considered. Whilst CT imaging provided an indication of the position and potential for spread of the mass, biopsy and immunohistochemistry eventually allowed a diagnosis of diffuse large B-cell lymphoma and commencement of appropriate therapy. This demonstrated the importance of taking a multidisciplinary approach to diagnosis of these tumours, which when organised effectively can dramatically speed up the process of diagnosis. There have been advances in the field of immunohistochemistry recently, which make diagnosis of lymphoma subtype more specific [8,9].

Gastrointestinal occurrence of lymphoma is not uncommon in the HIV-positive population. A Canadian study showed that over a 12-year period, in a population of 1086 HIV-positive patients, there were 39 cases of lymphoma and 13 of these were of the GI tract. The study showed that abdominal pain and weight loss were the two most common symptoms [10]. Nakazuru et al. [11] reported an unusual case of a HIV-associated duodenal lymphoma, which presented with melena. Gynaecological occurrences of lymphoma in HIV positive patients are less common although there is a case report of a HIV-associated lymphoma of the ovary [12]. The origin of the lymphoma in this case was unclear, although gastrointestinal seems the most likely.

### 4. Conclusion

A diagnosis of diffuse B-cell lymphoma in a HIV positive patient should not be missed. Early diagnosis in such cases can potentially lead to better treatment and improved outcome. Patients with HIV and concurrent lymphoma have poor quality of life and survival. Despite recent advances in anti-retroviral therapy and increases in

life expectancy in people with HIV, the survival of patients who are diagnosed with lymphoma while being HIV positive is still very poor. Clinicians should be more aware of the increased incidence of lymphoma in the HIV positive patients to allow quicker diagnosis. In this case, a number of investigative tests were required and a variety of medical specialities involved before gaining a diagnosis. The final diagnosis of large B-cell lymphoma was eventually confirmed with a biopsy and immunohistochemistry.

Learning points:

- This case illustrates the need for lymphoma to be suspected in any HIV positive patient presenting with suspicious symptoms, regardless of viral load or CD4 count, emphasising that AIDS-defining malignancy can occur even in patients with well-controlled HIV.
- These conditions can be present even in patients who appear otherwise systemically well and in whom routine blood tests may be deranged, emphasising the need to involve specific investigations early on.
- It also demonstrates the importance of a multidisciplinary approach to diagnosis in order to expedite the commencement of treatment and achieve the best possible outcome for the patient.

## 5. Methods

This work has been reported in line with the CARE criteria [13].

## Conflict of interest

None.

## Role of funding source

No funding source.

## Ethical approval

Nothing to declare.

## Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

## Author contribution

1. Mr Joseph Sinnott—lead author.
2. Dr Danial Natin—co-author.
3. Dr Paul Foster—co-author.

## Guarantor

Mr Joseph Sinnott.

Dr Paul Foster.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.ijscr.2016.02.032>.

## References

- [1] A. Gloghini, R. Dolcetti, A. Carbone, Lymphomas occurring specifically in HIV-infected patients: from pathogenesis to pathology, *Sem. Cancer Biol.* 23 (2013) 457–467.
- [2] A.M. Levine, L. Seneviratne, B.M. Espina, et al., Evolving characteristics of AIDS-related lymphoma, *Blood* 96 (2000) 4084–4090.
- [3] K.L. Grogg, R.F. Miller, A. Dogan, M. Frick, B. Dörken, G. Lenz, New insights into the biology of molecular subtypes of diffuse large B-cell lymphoma and Burkitt lymphoma, *Best Pract. Res. Clin. Haematol.* 1 (2012) 3–12.
- [4] P.B. Hansen, M. Penkowa, O. Kirk, et al., Human immunodeficiency virus-associated malignant lymphoma in eastern Denmark diagnosed from 1990 to 1996: clinical features, histopathology, and association with Epstein–Barr virus and human herpesvirus-8, *Eur. J. Haematol.* 64 (2000) 368–375.
- [5] O. Martínez-Maza, E.C. Breen, B-cell activation and lymphoma in patients with HIV, *Curr. Opin. Oncol.* 14 (2002) 528–532.
- [6] J.D. Buckley, A.T. Meadows, M.E. Kadin, et al., Pesticide exposure in children with non-Hodgkin's lymphoma, *Cancer* 89 (2000) 2315–2321.
- [7] S. Pather, Z. Mohamed, H. McLeod, et al., Large cell lymphoma: correlation of HIV status with differentiation profiles assessed by immunophenotyping, *Pathol. Oncol. Res.* 19 (2013) 695–705.
- [8] M. Frick, B. Dörken, G. Lenz, New insights into the biology of molecular subtypes of diffuse large B-cell lymphoma and Burkitt lymphoma, *Best Pract. Res. Clin. Haematol.* 1 (2012) 3–12.
- [9] K. Gatter, F. Pezzella, Diffuse large B-cell lymphoma, *Diagn. Pathol.* 2 (2010) 69–81.
- [10] P.L. Beck, M.J. Gill, L.R. Sutherland, HIV-associated non-Hodgkin's lymphoma of the gastrointestinal tract, *Am. J. Gastroenterol.* 91 (1996) 2377–2381.
- [11] S. Nakazuru, T. Yoshio, Y. Ogawa, et al., Human immunodeficiency virus (HIV)-associated duodenal lymphoma, *Endoscopy* 43 (2011) 384–385.
- [12] Y.K. Bangera, D.P. Shetty, S. Sethu, et al., HIV associated non-Hodgkin's lymphoma of the ovary, *J. Obstet. Gynaecol. India* 61 (2011) 567–568.
- [13] D. Riley, et al., CARE Checklist, 2013 <http://www.care-statement.org/care-checklist.html#timeline>.

## Open Access

This article is published Open Access at [sciendo.com](http://sciendo.com). It is distributed under the [IJSCR Supplemental terms and conditions](#), which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.