Urinary Bladder Mass Due To Chronic Lymphocytic Leukaemia

Manoj P Rai,¹ Prabhjot S Bedi,² Edwin B Marinas,³ Supratik Rayamajhi¹

¹Internal Medicine, Michigan State University / Sparrow Hospital, Lansing, Michigan, United States of America

²Internal Medicine, UPMC East, Monroeville, Pennsylvania, USA

³Department of Pathology, Sparrow Health System, Lansing, Michigan, USA

Correspondence to

Dr Manoj P Rai,
manojrai029@gmail.com

PSB and SR contributed equally.

Accepted 1 January 2018

DESCRIPTION

A 66-year-old man was diagnosed with chronic lymphocytic leukaemia (CLL) in November 2014. At diagnosis, his lymphocyte count was $169.66 \times 10^9/L$ (table 1). The fluorescent in situ hybridisation (FISH) panel revealed 13q deletion, but there was no evidence of 17p deletion, 11q deletion or t(11;14). He then received four cycles of bendamustine and rituximab, and at the end of the treatment complete blood count showed a lymphocyte count of $1.01 \times 10^9/L$ (table 1), and an interval bone marrow biopsy showed only small lymphoid aggregate suggestive of partial response.¹ In June 2017, his lymphocyte count was found to be elevated at $14.5 \times 10^9/L$ (table 1). An immunophenotypic analysis of the peripheral blood demonstrated approximately 78% lymphocytes and 0.5% mature CD14-positive monocytes. A predominant monoclonal B cell population was identified, comprising approximately 85% of lymphocytes and 67% of the processed specimen. It was positive for CD5, CD19, CD20, CD23, CD45, human Leukocyte Antigen – antigen D Related (HLA-DR) and surface kappa light chain, and negative for CD10, CD22, CD38 and FMC7. The remainder of lymphocytes included approximately 7% T

Figure 2 Histopathology (H&E stain) of the urinary bladder mass showing low-grade lymphoproliferative disorder characterised by a diffuse proliferation of small mature lymphocytes associated with a few large lymphoid cells and rare eosinophils.

cells with a CD4/CD8 ratio of 1.3. In summary, a predominant partially CD5-positive, kappa-restricted monoclonal B cell population was identified, immunophenotypically similar to that identified in previous bone marrow biopsy except that partial CD5 expression was identified. The FISH panel revealed 13q deletion with no evidence of 17p deletion, 11q deletion or t(11;14), similar to the results at the time of diagnosis. The patient was kept on surveillance as there were no cytopenias and no other indication of treatment. Three months later he presented to the emergency department with haematuria. CT of the abdomen/pelvis showed a mass in the urinary bladder. CT urography showed an intravesical mass in the left wall bladder with bladder wall infiltration, and additional intraluminal soft tissue mass projecting in and about the region of the ureteral entry through the ureterovesicular junction at the bladder trigone (figure 1). Transurethral resection of bladder tumour was performed, and the mass was $2.4 \times 1.0 \times 0.5$ cm in size. Histopathology showed low-grade lymphoproliferative disorder characterised by a diffuse proliferation of small mature lymphocytes associated with a few large lymphoid cells and rare eosinophils (figure 2). Immunohistochemical analysis showed small neoplastic lymphocytes positive for CD20, CD23, CD79a, CD5, BCL2 and BCL6 with weak intensity, and CD43. The neoplasm showed a Ki-67 proliferation fraction of approximately 20%. A few reactive plasma cells exhibited polyclonal staining pattern for kappa and lambda immunoglobulin light chains.

Figure 1 Intravenous contrast-enhanced CT in nephrographic phase showing enhancing mass in urinary bladder.

CrossMark

To cite: Rai MP, Bedi PS, Marinas EB, et al. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-223083

Table 1 Complete blood count with differential at different phases of the case

Complete blood count with differential	At diagnosis	End of cycle 1	End of cycle 4	At progression
White blood cells (WBC) $\times 10^9/L$	176	56.7	3.1	53.1
Red blood cells (RBC) $\times 10^6/\mu L$	1.11	2.79	4.05	3.72
Haemoglobin (Hb) g/dL	3.8	9.3	13.8	13.4
Haematocrit (Hct) %	14.6	29.4	40.3	39.3
Mean corpuscular Volume (MCV) fL	132	105	100	106
Mean corpuscular hemoglobin (MCH) pg	34.2	33.3	34.1	36
Mean corpuscular hemoglobin concentration (MCHC) g/dL	26	31.6	34.2	34.1
Platelet Count $\times 10^9/L$	30	23	216	186
Neutrophils %	1.9	1.1	41.4	51.9
Lymphocytes %	96.4	97	32.2	27.4
Monocytes %	1.6	1.8	16.2	17.1
Eosinophils %	0.1	0.1	7.3	2.7
Basophils %	0	0	2.9	0.9
Absolute neutrophils $\times 10^9/L$	3.344	0.59	1.3	27.55
Absolute lymphocytes $\times 10^9/L$	169.66	54.98	1.01	14.5
Absolute monocytes $\times 10^9/L$	2.816	1.02	0.51	9.08
Absolute eosinophils $\times 10^9/L$	0.176	0.08	0.23	1.4
Absolute basophils $\times 10^9/L$	0	0.02	0.09	0.4

Learning points

- Chronic lymphocytic leukaemia (CLL) causing bladder mass is rare and to date only a few cases have been reported, but in a patient with CLL presenting with bladder mass a high index of suspicion should be placed for CLL bladder infiltration.
- In patients with a diagnosis of CLL, a close surveillance is required since there is a risk of recurrence or progression.

Rare plasma cells were positive for CD138. CD3 highlighted a small population of T cells. The above findings were consistent with CLL/small lymphocytic lymphoma. A positron emission tomography (PET)-CT was obtained. The PET part was unremarkable, while the CT showed an increased number of small lymph nodes in the mesentery as well as in the upper retroperitoneum. CLL in the urinary bladder is a rare manifestation.

Contributors MPR prepared the manuscript (case and the short discussion). PB assisted with the manuscript revision. EBM provided the pathology slides and edited the manuscript. SR revised the paper.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

© BMJ Publishing Group Ltd (unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCE

- 1 Hallek M, Cheson BD, Catovsky D, *et al.* Guidelines for the diagnosis and treatment of chronic lymphocytic leukemia: a report from the international workshop on chronic lymphocytic leukemia updating the national cancer institute-working group 1996 guidelines. *Blood* 2008;111:5446–56.

Copyright 2017 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- Submit as many cases as you like
- Enjoy fast sympathetic peer review and rapid publication of accepted articles
- Access all the published articles
- Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow