Complete response to chemotherapy in Burkitt’s Lymphoma of the Bladder: A case report

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ABSTRACT

We report a case of a 87-year-old woman with a Burkitt’s Lymphoma of the Bladder. She presented with hematuria. Cystoscopy, computed tomography and magnetic resonance imaging revealed extramural invasion of a 6-cm-sized tumor that extended from the right wall to the neck of the bladder. The histological pattern was Burkitt’s lymphoma. The patient was then treated by chemotherapy. The tumor disappeared after 4 cycles of chemotherapy. The urogenital tract has been described in the literature as a primary tumor location in cases of non-Hodgkin’s lymphoma, however, it is rarely the tumor site in Burkitt’s lymphoma cases.

Introduction

Burkitt’s lymphoma (BL) is a rare and aggressive B-cell tumor typically involving extranodal disease sites. BL is estimated to account for only 1–5% of all Non Hodgkin Lymphoma (NHL) in adults. Adult patients with BL commonly present with bulky abdominal masses, and bladder involvement is extremely rare in Burkitt lymphoma. Here, we present a rare case of Burkitt’s lymphoma of the bladder in an 87-year-old woman, which was successfully treated by aggressive chemotherapy.

Case presentation

An 87-year-old woman presented to the accident and emergency department of our hospital with hematuria and physical weariness for the past 1 week. Urinary tract infection was suspected and she was referred to our department. Echo and cystoscopy revealed a 6-cm-sized tumor that extended from the right wall to the neck of the bladder (Fig. 1.).

Contrast computed tomography (CT) and bladder contrast magnetic resonance imaging (MRI) findings suggested bladder tumor with extramural invasion and right obturator lymph node metastasis (Fig. 1.). Transurethral resection of the bladder tumor (TURBT) was performed for tissue diagnosis and hemostasis. Histological examination revealed medium-sized cells with round nuclei, without cleaves or folds and diffuse and monotonous with a ‘starry-sky’ appearance due to numerous macrophages, which was typical of Burkitt’s lymphoma (Fig. 2.).

Discussion

Primary bladder involvement in lymphoma is reportedly 0.2% of all cases of extranodal lymphoma.1 Lymphomas of the urinary bladder are more predominant among women than among men, and most cases of lymphoma of the urinary bladder occur in middle-aged women.2 MALT is the most common subtype of lymphomas in the urinary bladder and this typically affects adults who are more than 60 years old and 75% of those affected are women.2

BL of the urinary bladder is an uncommon lesion; and its diagnostic features are less commonly known among medical practitioners. BL is a rare and aggressive B-cell tumor typically involving extranodal disease sites. In the WHO Classification, three clinical variants of BL are described: endemic, sporadic, and immunodeficiency-associated BL.3 The endemic variant is the most common form of childhood malignancy occurring in equatorial Africa and the majority of cases are associated with Epstein-Barr virus (EBV) infection. Sporadic BL accounts for 1–2%

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Immunodeficiency-associated BL occurs mainly in patients infected with HIV, in some posttransplant patients, and in individuals with congenital immunodeficiency. 

Adult patients with BL commonly present with bulky abdominal masses, many of which are ileocecal. Genitourinary lymphomas are uncommon and, in particular, bladder involvement is extremely rare in BL cases. Since this lymphoma is one of the most rapidly proliferating neoplasms and is often associated with a tumour lysis syndrome, prompt diagnosis is required for timely and effective intervention. Although histopathological studies are absolutely necessary for diagnosis, cytology could be a beneficial ancillary method, providing more detailed information to clinicians. Diagnosis of lymphoma of the urinary bladder is based upon the characteristic morphology of the bladder lesion which has been resected or biopsied and this must be supported by flow cytometry analysis or immunohistochemistry (IHC) to establish the diagnosis of BL. CT scans of the chest, abdomen, and pelvis are needed for staging. In addition, bone marrow involvement (up to 70% of cases) and leptomeningeal central nervous system (CNS) involvement (up to 40% of cases) may also be common findings at the time of diagnosis. Evaluations of bone marrow aspirates, biopsy, lumbar puncture and flow cytometry of cerebrospinal fluid are essential.

BL is curable in a significant subset of patients when treated with dose-intensive, multiagent chemotherapy regimens that also incorporate CNS prophylaxis. In a recent population-based analysis of data from patients with BL (HIV-negative BL; N = 258) from a Swedish/Danish registry, CHOP (or CHOP with etoposide) regimens resulted in a 2-year OS of only 39% compared with approximately 70–80% with more intensive multiagent chemotherapy regimens. Thus, for patients with BL who can tolerate aggressive therapies, intensive multiagent chemotherapy may offer the best chance for durable disease control. In this case, although the patient had a large bladder tumor with extramural invasion and obturator lymph node metastasis, was able to obtain complete response to chemotherapy and durable tumor control.

Fig. 1. Cystoscopy and MRI showed a nodular tumor with extramural invasion.

Fig. 2. Histological examination demonstrates staining pattern typical of Burkitt’s lymphoma.

Fig. 3. After the EPOCH+R 4 cycles, cystoscopy revealed that the tumor in the bladder had disappeared and tumors with uptake in PET disappeared.
Conclusion

BL of the urinary bladder is extremely rare, but prompt diagnosis is important, because its early detection is crucial for effective intervention. This case is of clinical relevance since it demonstrates that BL is potentially curable by aggressive chemotherapy.

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Authors’ contributions

RS performed the surgery and follow up. RS drafted manuscript. MH and TI finalized the manuscript. All authors have read and approved the final manuscript.

Consent for publication

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Ethics approval

Informed consent was obtained from the patient.

Declaration of competing interest

The authors declare no conflict of interest.

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