

Lymphoepithelioma-like, a Variant of Urothelial Carcinoma of the Urinary Bladder: A Case Report and Review of the Literature

Oussama Ziouani, Hicham El Bote, Abdelilah El Alaoui, Hachem Elsayegh, Ali Iken, Lounis Benslimane and Yassine Nouini.

Urology "A" Department, University Hospital Center of Rabat, Morocco.
Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco.

ARTICLE INFO

Article history:

Received: 10 August 2018;

Received in revised form:

5 October 2018;

Accepted: 16 October 2018;

Keywords

Bladdercarcinoma,
Lymphoepithelioma-like
Carcinoma,
Variant Histology.

ABSTRACT

Lymphoepithelioma-like carcinoma is an undifferentiated carcinoma with histological features similar to undifferentiated, non-keratinizing carcinoma of the nasopharynx. Lymphoepithelioma-like carcinoma of the urinary bladder is uncommon with a reported incidence of 0.4%- 1.3% of all bladder cancer. We report a case of a 68 year-old-man with a muscle-invasive lymphoepithelioma-like carcinoma of the bladder who was treated with radical cystectomy with 12 months follow up.

©2018ElixirAllrightsreserved.

Introduction

Lymphoepithelioma-like carcinoma (LELC) is a rare malignancy, named for its resemblance to nasopharyngeal undifferentiated carcinoma or lymphoepithelioma and has been reported to occur in other sites of the body. LELC of the bladder was first described by Zukerberg et al in 1991 [1]. It represents a rare variant of urothelial carcinoma, with features resembling nasopharyngeal carcinomas and a reported incidence of 0.4% to 1.3% of all bladder carcinomas [2]. Because of the small number of cases reported in the literature, prognosis and ideal treatment guidelines have not been clearly defined.

We report a case of a muscle-invasive LELC of the bladder with a 12 months follow up and review the literature on this uncommon pathology.

Observation

A 68-year-old man, with a history of chronic smoking, presented with intermittent gross hematuria for several weeks. Physical examination and vital signs were unremarkable. Ultrasounds revealed an intravesical echogenic images localized at the posterior and left-side wall of his bladder. A CT scan of the abdomen and pelvis showed multifocal tumors of the urinary bladder in posterior, right-side and left-side wall (Figure 1) with dilation of the left upper urinary tract.



Figure 1. CT scan showing multifocal tumors of the urinary bladder in posterior, right-side and left-side wall.

There was no pelvic lymphadenopathy. Cystoscopic examination revealed multiple bladder tumors, the largest in the left postero-lateral wall. A transurethral resection of bladder tumor (TURBT) was performed and histopathological examination revealed high-grade urothelial carcinoma papillary type and associated lymphoepithelioma-like carcinoma (LELC) of the urinary bladder, with extensive muscle invasion (Figure 2). After a chest CT scan that did not show secondary location, a radical cystectomy with ileal conduit diversion and lymph node dissection were performed with no postoperative complications. Final pathology report showed high-grade urothelial carcinoma associated with LELC in the left wall with muscle invasion. All lymph nodes were free from metastatic urothelial carcinoma. It was classified pT2 N0. The patient didn't have per-operative chemotherapy. The regular clinical and radiological (CTs) follow up showed no evidence of recurrence or metastasis and the patient is currently free of disease after a follow up of 12 months.

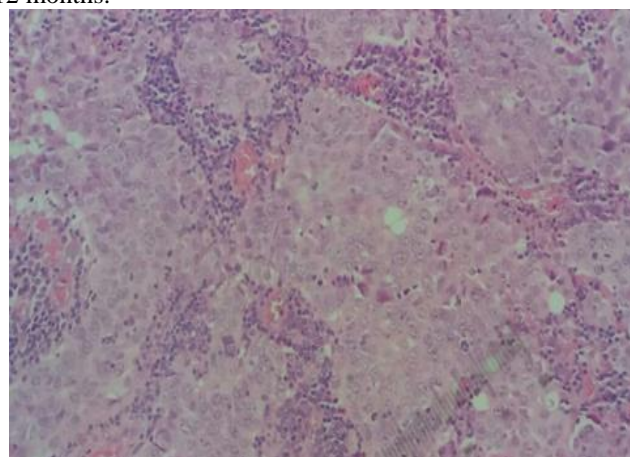


Figure 2. Microscopic aspect of high-grade urothelial carcinoma papillary type and associated lymphoepithelioma-like carcinoma.

Discussion

The majority of urinary bladder malignancies have an urothelial origin, accounting for approximately 90% of these tumors [3]; however, additional histological variants such as squamous, glandular, micropapillary, sarcomatoid, lymphoepithelioma like and other tumor types may be found. LELC of the bladder were classified as a distinct variant of urothelial carcinomas in the classification of the World Health Organization of urothelial tumors in 2004 [4]. This variant resembles lymphoepithelioma of the nasopharynx and has been described in the urinary bladder but also in the upper urinary tract. It is an extremely rare tumor first described by Zukerberg et al in 1991 [1]. In 1994, Amin et al categorized LELC of the urinary bladder into three subgroups: pure, predominant (>50% lymphoepithelial component), and focal (<50% lymphoepithelial component) [5]. The Epstein-Barr virus (EBV) is sometimes associated with a lymphoepithelioma of the nasopharynx, but was not detected in any of the cases of LELC of the urinary bladder [6]. Lymphoepithelioma cases have frequent p53 accumulations supporting a similar pathogenesis to conventional urothelial carcinoma [7]. The epithelial component is composed of nests, sheets, and cords of undifferentiated cells with large pleomorphic nuclei and prominent nucleoli. The cytoplasmic borders are poorly defined, imparting a syncytial appearance, with positive CKAE1/AE3, CK7, GATA3, and negative-to-rare CK20. The background consists of a prominent lymphoid stroma that includes T and B lymphocytes, plasma cells, histiocytes, and occasional neutrophils or eosinophils. CD3 T-lymphocytes predominate [8,9]. The major differential diagnostic considerations are poorly differentiated urothelial carcinoma with lymphoid inflammatory response, poorly differentiated squamous cell carcinoma, and lymphoma [10]. Immunohistochemical studies for cytokeratin and lymphoid markers can help in resolving the differential diagnosis.

LELC of the urinary bladder is a male-predominant tumor with a male-to-female ratio of 3:1, and the average age is 68.4 (52–84) years [2]. The clinical presentation does not differ from that of urothelial carcinoma, so most patients present with painless gross hematuria [2]. At endoscopy, the tumor is often unifocal, small, and has a polypoid form [1].

Owing to limited experience, standard therapeutic approaches for LELC of the urinary bladder are not well established yet. The pure or predominant type responds better to chemotherapy than conventional urothelial carcinoma, and this provides a potential to salvage bladder function [6]. This advantage is lost when the urothelial elements predominate. Lopez-Beltran et al. [11] reported that 2 of 3 patients with pure type received transurethral resection of the bladder and adjuvant chemotherapy. The both showed no evidence of disease at 21 and 47 months. Tamas et al. [6] reported that 2 of 3 pure cases received chemotherapy, and the both showed no evidence of disease at 4 and 65 months. Dinney et al. [12] reported a complete response to chemotherapy and TURBT in 3 cases of muscle-invasive LELC, with no evidence of recurrence after 6 years of follow-up. In most cases, the platinum-based chemotherapies were performed [13]. Most authors recommend radical cystectomy in the case of muscle infiltration [6]. We opt for radical cystectomy in our case taking into account the low level of evidence advocating conservative treatment.

Lymphoepithelioma-like bladder carcinoma has been found to have similar prognosis, chemo-sensitivity, and response to immunotherapy to the observed in conventional urothelial carcinoma [10]. Serrano et al. [14] reported a

recurrence-free survival in 87.5% of patients who had a pure form and stages T2 or T3. The prognosis of pure forms is linked to the importance of the inflammatory infiltrate and cytotoxic T lymphocytes [14]. Finally, recent preliminary data published as an abstract also support using immunotherapy in these patients [10].

Conclusion

LELC is a rare variant of urothelial carcinoma whose therapeutic approaches are not established yet. Radical treatment seems most appropriate for muscle invasive of mixed forms of LELC, while pure forms could be managed with bladder sparing approaches. It is strongly suggested that clear guideline for LELC is needed.

Competing interests

The authors declare that they have no competing interests.

Author contributions

All authors contributed in the development of this publication and approved the final manuscript.

References

1. Zukerberg LR, Harris NL, Young RH. Carcinomas of the urinary bladder simulating malignant lymphoma. A report of five cases. *Am J Surg Pathol*. 1991;15:569-76.
2. Porcaro AB, Gilioli E, Migliorini F, et al. Primary lymphoepithelioma-like carcinoma of the urinary bladder: report of one case with review and update of the literature after a pooled analysis of 43 patients. *Int Urol Nephrol*. 2003;35:99-106.
3. Lopez-Beltran A, Cheng L. Histologic variants of urothelial carcinoma: differential diagnosis and clinical implications. *Hum Pathol*. 2006; 37:1371-88.
4. Eble JNSG, Epstein JI, Sesterhenn IA. World Health Organization Classification of Tumours. Tumours of the Urinary System and Male Genital Organs. Lyon: IARC Press; 2004. p. 90e109.
5. M.B. Amin, J.Y. Ro, K.M. Lee, N.G. Ordóñez, C.P. Dinney, M.L. Gulley, et al. Lymphoepithelioma-like carcinoma of the urinary bladder *Am J Surg Pathol*, 18 (1994), pp. 466-473.
6. E. F. Tamas, M. E. Nielsen, M. P. Schoenberg, and J. I. Epstein. Lymphoepithelioma-like carcinoma of the urinary tract: a clinicopathological study of 30 pure and mixed cases. *Modern Pathology*, vol. 20, no. 8, pp. 828–834, 2007.
7. F.M. Izquierdo-Garcia, F. Garcia-Diez, I. Fernandez, A. Pérez-Rosado, A. Sáez, D. Suárez-Vilela, et al. Lymphoepithelioma-like carcinoma of the bladder: three cases with clinicopathological and p53 protein expression study. *Virchows Archiv*, 444 (2004), pp. 420-425.
8. Lopez-Beltran A, Paner G, Blanca A, et al. Lymphoepithelioma-like carcinoma of the upper urinary tract. *Virchows Arch* 2017, 470-703-9.
9. Williamson SR, Zhang S, Lopez-Beltran A, et al. Lymphoepithelioma-like carcinoma of the urinary bladder: clinicopathologic, immunohistochemical, and molecular features. *Am J Surg Pathol* 2011;35:474–83.
10. Lopez-Beltran A, Cheng L, Raspollini M R, et al. Variants of Bladder Cancer: The Pathologist's Point of View. *EUROPEAN UROLOGY SUPPLEMENTS* 16 (2017) 210–222.
11. A. Lopez-Beltran, L. Cheng, R. Prieto, A. Blanca, and R. Montironi. Lymphoepithelioma-like carcinoma of the prostate. *Human Pathology*, vol. 40, no. 7, pp. 982–987, 2009.
12. C.P. Dinney, J.Y. Ro, R.J. Babaian, D.E. Johnson. Lymphoepithelioma of the bladder: a clinicopathological study of 3 cases *J Urol*, 149 (1993), pp. 840-841.

13.N. M. Pantelides, S. L. Ivaz, A. Falconer et al., "Lymphoepithelioma-like carcinoma of the urinary bladder: a case report and review of systemic treatment options," Urology Annals, vol. 4, no. 1, pp. 45-47, 2012.

14.Serrano GB, Fúnez FA, López RG, Crespo CV, Nicolás VD, Naranjo SD, Barrilero AE. Bladder lymphoepithelioma-like carcinoma. Bibliographic review and case report. Arch Esp Urol. 2008 Jul-Aug; 61(6):723-9.