Oncology

Testicular Metastasis of a Upper Urinary Tract High-grade Papillary Urothelial Carcinoma, 2 Years After Nephroureterectomy

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ABSTRACT

Urothelial carcinomas are the fourth most common tumors in men. Upper tract urinary carcinomas (UTUCs) are uncommon and represent only 5–10% of urothelial carcinomas.1 The testicular metastases are quite common, but rarely of urothelial origin, and such cancers are determined incidentally in orchidectomy or autopsy specimens.2 Primary tumors known to metastasize in the testes include, in order of frequency: prostate, lung, digestive tract, melanoma and renal tumor.

Only 2 cases of testicular urothelial metastasis have been reported, however with synchronous primary urothelial cancer.3 We report the first case of testicular metastasis of a UTUC, 2 years after curative surgery by nephroureterectomy.

Case report

A 70 year old man presented in 2011 with gross hematuria in our outpatient clinic. Cystoscopy showed two papillary lesions of 5 mm in the left retromeatal region as well as a sessile bladder lesions of 5 mm of the posterior bladder wall. After complete resection, histology showed an low grade urothelial papillary carcinoma stage pT1a.

During follow-up, the patient presented 2 years later left kidney pain with gross hematuria. CT-scan showed a highlighting central tissue lesion of 4.2 × 4.1 × 4 cm in the left kidney (Fig. 1), raising the differential diagnosis of urothelial carcinoma versus renal carcinoma. A nephroureterectomy is realized in July 2013 and pathology showed a caliceal high-grade papillary urothelial carcinoma infiltrating the renal parenchyma of 2.5 × 2.4 × 4.4 cm. Pathological stage was a pT3 cN0 cM0 R0 carcinoma (Fig. 2).

In July 2015, the patient was readdressed by his urologist after treating a chronic left orchi-epididymitis, resistant to several antibiotic treatments. The patient reported chronic left testicular pain without any other symptoms. Physical examination showed a fixed painful testis with an induration of the whole spermatid cord. CT-scan revealed an inflammation of the testis and spermatid cord without any lymph node nor secondary lesions (Fig. 3). The indication for orchidectomy is retained.

Pathology returned positive for a testicular metastasis of the known urothelial carcinoma (histological characteristics were similar to those of the nephrectomy in 2013), infiltrating the epididymis and the base of the spermatid cord with many lymphovascular invasions as well as perineural engagements in the testicular parenchyma and the spermatid cord, reaching the surgical margin at the spermatid cord. The markers p63 and Gata 3 were positive (Figs. 4 and 5).

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We completed examination with a Pet-CT who showed many hypermetabolic lesions in the lungs, adrenal gland, liver, intra-peritoneal spermatic cord and the penis posing the indication of a palliative chemotherapy.

Discussion

Metastatic testicular tumors are very rare. Our case is the first describing a testicular metastasis of a urothelial UTUC after initial curative surgery. The most common pathway of tumor spread in urothelial carcinoma is the lymphovascular system. In this case, we can see that the renal tumor as well as the metastasis were both on the left side without any positive lymph node on the CT-scan, opening the hypothesis that the dissemination was done through the vascular system.

Conclusion

Monitoring of patients with urothelial carcinoma is important and any atypical evolution must quickly been completed by additional examinations. For this patient, the management was probably too late, especially because a potential testicular metastasis of his urothelial carcinoma was not the first assumption.

Conflict of interest

There is no conflict of interest.

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