

# Recidiva Extravesical após Ressecção de Tumor da Bexiga: Caso Clínico e Revisão da Literatura

## *Extravesical Relapse after Bladder Tumour Resection: Case Report and Review of Literature*

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### Resumo

**Introdução:** O tumor da bexiga é a segunda neoplasia mais comum do tracto urogenital. A perfuração clinicamente evidente durante a ressecção transuretral da bexiga (RTU-V) é uma ocorrência rara e o seu significado oncológico não é totalmente compreendido. No presente trabalho, é descrito um caso de recidiva oncológica extra-vesical após RTU-V, seguida de uma revisão da literatura baseada na evidência.

**Caso Clínico:** Indivíduo do sexo masculino, de 47 anos, que trabalha com resíduos químicos há 22 anos. Em 2002, na sequência de hematuria macroscópica indolor com cistoscopia suspeita, o sujeito foi submetido a uma RTU-V. Ressecou-se uma lesão na parede lateral direita da bexiga, cuja histologia revelou carcinoma de células de transição, papilar, de baixo grau (pTa). Seguiu-se quimioterapia intra-vesical adjuvante, sem ocorrência de recidiva. Em 2011, uma Tomografia Computadorizada suspeita revelou novo episódio de hematuria macroscópica indolor, e foi identificada uma massa pélvica direita de origem indeterminada. Esta lesão foi excisada laparoscopicamente, e a respectiva histologia confirmou tratar-se de um carcinoma de células de transição, com seguimento sem evidência de doença.

**Discussão:** A percentagem de perfurações vesicais extraperitoneais assintomáticas que ocorre durante a RTU-V atinge os 58%. As consequências oncológicas reportadas na literatura relativamente a este assunto são inconclusivas. Este caso parece ser o primeiro a descrever a ocorrência de uma recidiva

tão tardia, concretamente 9 anos após a ressecção inicial.

### Abstract

**Introduction:** Bladder cancer is the second most common neoplasm of the genitourinary tract. Obvious perforation is a rare complication of cystoscopy and transurethral resection (TURBT), and the oncological relevance of such an event is not fully understood. The following case report illustrates an extravesical oncological recurrence after TURBT, followed by an evidence-based review.

**Case Report:** Male patient, 47 years old, working with industrial chemical wastes for 22 years. In 2002, following an episode of macroscopic painless hematuria with a suspicious cystoscopy, the subject was submitted to a TURBT of a lesion on the right lateral bladder wall, which histological exam identified a low-grade, papillary transitional cell carcinoma (pTa). Adjuvant intra-vesical mitomycin ensued, without disease relapse. In 2011, there was a new episode of macroscopic painless hematuria, just with a suspicious CT scan: a right pelvic mass of undetermined origin. This tumour was removed laparoscopically, and the histological exam revealed a transition cell carcinoma. Follow-up showed no evidence of disease.

**Discussion:** Asymptomatic and undetected extraperitoneal perforations during TURBT reach 58% of the procedures. The evidences are inconclusive concerning possible oncological outcomes. This case seems to be the first to report a relapse of this nature so many years (9 years) after initial resection.

## Introduction

Bladder cancer is the second most common neoplasm of the genitourinary tract, with higher prevalence among developed and industrialized countries. At diagnosis, 80% of these bladder tumours are non-muscle invasive and well differentiated<sup>1</sup>. Cystoscopy and transurethral resection (TURBT) are important approaches for the diagnosis and treatment of such lesions. Despite being performed on a routine basis by most urologists, they are sometimes associated with the development of clinical complications<sup>2,3</sup>. Obvious perforation is a rare complication of TURBT and the oncological importance of such event is not fully understood. The following case report illustrates the occurrence of an extravesical oncological relapse 9 years after TURBT, and is preceded by an evidence-based review on this topic.

## Case Report

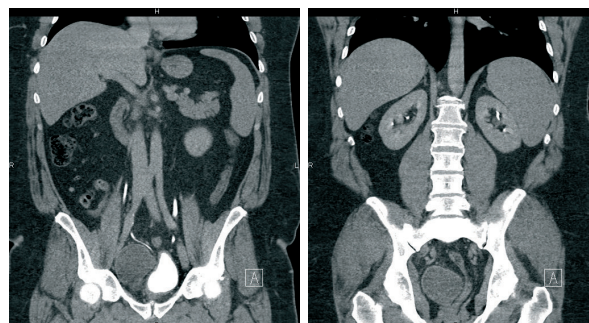
The subject is a male caucasian patient of 47 years old, working with industrial chemical wastes since his 22 years of age, with no active or passive smoking habits.

In 2002, with 38 years, he presented to the hospital with total macroscopic painless hematuria of sudden onset. Evaluation of the patient revealed a negative urine culture and cytology, a normal computed tomography (CT) scan, but a flexible cystoscopy suspicious for bladder tumour.

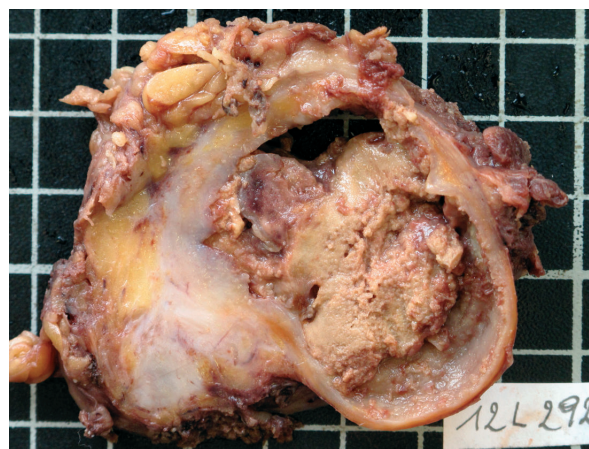
For that reason, he was submitted to an endoscopic resection of a 1cm lesion on the right lateral bladder wall, without reported complications. The histological exam identified a non-invasive papillary transitional cell carcinoma (pTa, according to TNM Classification<sup>4</sup>). A program of bladder instillation with mitomycin ensued, with all the follow-up cystoscopies and urinary cytologies resulting negative.

At the end of 2011, a new episode of macroscopic painless hematuria took place, this time also with a negative cystoscopy, besides the negative urine culture and cytology. The CT scan showed the presence of a right pelvic mass, polilobulated, with liquid density and measuring 12 x 6cm (Figure 1). It had an undetermined origin and exerted a mass effect over the bladder, right ureter and rectum. The fact that it did not show enhancement with contrast in a late phase of the CT scan argued against the hypotheses of a bladder or ureter diverticula.

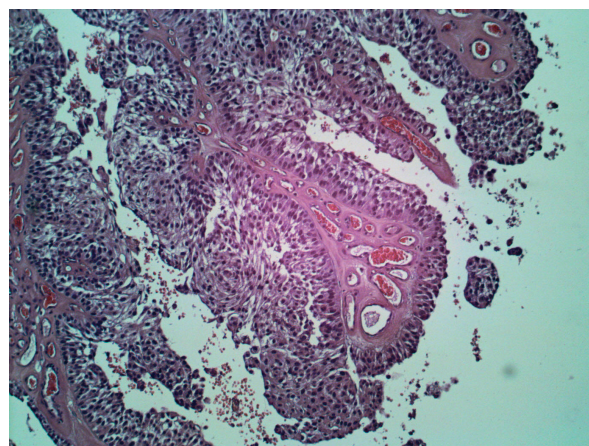
The patient was submitted to a laparoscopic hand-assisted excision of the tumour, which confirmed its extra-urinary and retroperitoneal origin. The right ureter, bladder and rectum were preserved without damage.



**Figure 1 a-b)** CT scan with coronal view. Note the mass effect on the right ureter (thin arrows), bladder (black asterisk) and rectum (large arrows) and the fact that there is no hydronephrosis. White asterisk – Pelvic mass



**Figure 2)** Macroscopic aspect of the excised tumour. Note the presence of a necro-hemorrhagic content and a wall measuring from a few millimeters to 1cm.



**Figure 3)** Microscopic aspect of the excised tumor. Proliferation of tumor cells with pleomorphic nuclei with some abnormal mitosis, a disturbed histological architecture with loss of stratification and the formation of papillary structures.

The macroscopic pathological exam (Figure 2) described a 292g mass, polilobulated and surrounded by fatty tissue. Histologically (Figure 3), it was a low grade and focally high grade papillary transitional cell carcinoma, with a complete excision. The wall was made of fibrous and inflammatory tissue as

well as scarce muscle fibers, which were in some parts invaded by tumour cells. Twelve lymph nodes were identified, all tumour free.

No adjuvant therapy was given. Within 12 months of follow-up, no relapse or residual tumour were found.

## Discussion

Transurethral resection of bladder tumors is associated with a low (5%) overall complication rate<sup>5</sup>. After hemorrhage, which accounts for 1-3% of complications, obvious bladder perforation is the second most serious adverse event (1% of TURBTs)<sup>5,6</sup>. Of these, 80% are extraperitoneal and amenable of conservative treatment with prolonged urethral catheter drainage, and 20% are intraperitoneal and often require open or laparoscopic surgical repair<sup>5</sup>. However, data from cystograms performed before and after this type of surgery shows that asymptomatic and undetected extraperitoneal perforations during bladder resections are common (58%)<sup>2</sup>. Balbay *et al.* revealed that the best predictor of perforation was tumour size, although his conclusion was based on a small number of patients<sup>2</sup>.

Existing evidences are inconclusive concerning oncological outcomes in TURBTs complicated by perforation<sup>2, 3, 5-11</sup>. The available published data is based on case reports or small series limited by a retrospective design. Open surgical procedures such as partial cystectomy or suprapubic cystostomy have been associated with seeding of transitional cell carcinoma outside of the urinary tract<sup>12</sup>. In a study by Skolarikos *et al.*<sup>10</sup>, the strongest predictor of extravesical relapse was the way the perforation was handled - all 4 patients submitted to open repair of the bladder following TURBT developed disease at a mean follow-up of 7.5 months, with the only extraperitoneal perforation of an original T1G2 dying 4 months after surgery. On the other hand, Golan *et al.*<sup>11</sup> found that, among 15 patients submitted to exploratory laparotomy to repair a large bladder defect, only 2 had extravesical disease progression - one with muscle invasive disease and liver metastasis at 3 months post-op, and the other with high-grade T1 and lung metastasis at 6.5 months. Balbay *et al.*<sup>2</sup> reported no extravesical relapse in their population of patients with asymptomatic extraperitoneal perforations, with a mean follow-up of 21.9 months. The longest relapse found in the literature was registered 96 months after intraperitoneal perforation<sup>9</sup>.

## Conclusion

This case report identifies a probable extravesical tumour seeding due to a bladder perforation follo-

wing transurethral bladder resection. As discussed before, this kind of relapse is very rare and, to our knowledge, has never been reported so late (9 years) after TURBT. The oncological outcomes of undetected extraperitoneal perforations are still unknown.

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