

# Radical cystectomy and orthotopic neobladder in fit octogenarians

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**Background and aims.** Octogenarians are usually considered poor candidates to orthotopic neobladder after radical cystectomy. Herein we report our experience with feasibility, efficacy and safety of orthotopic neobladder in octogenarians.

**Patients and methods.** Two 83 year-old patients with muscle invasive urothelial carcinoma were considered eligible for orthotopic neobladder after radical cystectomy. Their cognitive status was excellent; no serious comorbidities. Follow-up consisted of chest/abdomen computed tomography every six months for three years, then yearly. Urinary continence was assessed recording day-time and night-time used-pad and International Consultation on Incontinence Questionnaire (ICIQ).

**Results.** Final pathology was high-grade urothelial carcinoma (pT2N0) in patient A and high-grade urothelial carcinoma with neuroendocrine component (pT3N1) plus prostate adenocarcinoma Gleason 3+3 (pT2a) in patient B. No complication occurred. However, patient B progressed (bone metastases) after 3 months and died 7 months after surgery due to the aggressive behaviour of the neuroendocrine tumor. Patient B presented 74 months after surgery with a 3.5 tumor of the left renal pelvis. He refused further surgical treatment and died 13 months later due to metastatic disease. Patient A scored 12 at 3 month ICIQ as he needed 1 pad day-time and 1 night-time but experienced progressive improvement up to full day-time continence and safety liner night-time, scoring 2 at 1-year ICIQ. Early functional outcome was good in patient B who was continent day-time but used 1 pad night-time. His ICIQ score was 6.

**Conclusions.** Age is not an absolute contraindication to neobladder construction providing adequate cognitive status and absence of major comorbidities.

**Key words:** Bladder cancer, Cystectomy, Neobladder, Octogenarian, Aging

## INTRODUCTION

In industrialized countries, the average life expectancy has continuously increased during the last decades and this trend is expected to continue. Bladder cancer (BC) affects old patients, particularly smokers<sup>1,2</sup>, and average age at diagnosis is approximately 70 years. Nearly 25% of patients present with muscle invasive bladder cancer (MIBC) and a significant number of those presenting with non muscle invasive disease will progress to MIBC over time<sup>3</sup>.

Radical cystectomy (RC) with pelvic lymph node dissection is the standard of care for patients with muscle-invasive bladder cancer (MIBC)<sup>3</sup>. Nevertheless many elderly patients are often considered unfit for such major surgery. Indeed, only 10-20% of octogenarians with MIBC undergo RC<sup>4</sup> due to the perception they would not tolerate RC and urinary diversion because of age and comorbidities<sup>5</sup>. Recent reports, however, have shown that RC can be safely performed in elderly individuals with low perioperative mortality, acceptable morbidity and in most cases without significant

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deviations from routine postoperative care<sup>6</sup>. An ileal conduit is usually the urine diversion of choice in elderly patients but it has recently been shown that an orthotopic neobladder can be carried out with no additional complications compared with an ileal conduit<sup>7</sup>.

Herein we describe the outcomes of two octogenarian patients (83 years) who underwent RC with orthotopic neobladder construction.

## PATIENTS AND METHODS

We performed radical cystectomy with orthotopic urinary diversion in two octogenarian patients with excellent cognitive status, good clinical conditions and strong motivation for a continent urinary diversion.

Patient A was a 83-year-old man who presented with hematuria on a bladder ultrasound showing a 3 cm mass of the right lateral bladder wall. Transurethral resection of the bladder tumour (TURBT) revealed high-grade papillary urothelial carcinoma of the bladder extensively infiltrating the bladder muscle (pT2). Chest/abdomen computed tomography (CT) pointed out no sign of metastases; thus, he underwent a Y-stapled ileal orthotopic neobladder.

Patient B had a similar history: hematuria, 3.6 cm bladder mass at ultrasounds and TURBT showing high-grade papillary urothelial carcinoma of the bladder extensively infiltrating the bladder muscle (pT2). Chest/abdomen CT pointed out no sign of metastases; thus, he underwent a W-stapled ileal orthotopic neobladder. Oncological follow-up included chest and abdominal CT every six months until the third year and then yearly to rule out upper tract or metastatic disease. Functional outcome in terms of urinary continence was assessed at 1 month, 3 months and then yearly by day-time and night-time used-pad and International Consultation on Incontinence Questionnaire (ICIQ).

## RESULTS

Postoperative course was uneventful; patient A was discharged on 18<sup>th</sup> postoperative day and patient B on 16<sup>th</sup> with no catheter, splint or drain.

Final pathology revealed, in patient A, high-grade urothelial carcinoma extending to deep bladder muscle (pT2N0); in patient B, conversely, it revealed high-grade urothelial carcinoma with 30% of neuroendocrine pattern extending to the perivesical fat and metastatic to 2 obturator nodes (pT3N1). There was also a pT2a Gleason 3+3 prostate adenocarcinoma, despite he had undergone prostate biopsy 22 month earlier under our protocol<sup>8-10</sup>. Patient B refused adjuvant chemotherapy.

Both patients regularly attended follow-up with the urinary continence specialist nurse. At 1-month follow-up, patient A reported day-time and night-time incontinence with usage of 6 pads/day; his ICIQ score was 18; patient B reported mild day-time incontinence but night-time leakage, with usage of 4 pads/day, his ICIQ score was 12. At 3-month follow-up, patient A reported 1 pad day-time and 1 pad night-time; his ICIQ score was 12 and at 1-year follow-up he had experienced progressive improvement up to full day-time continence and safety liner night-time, scoring 2 at ICIQ. Patient B reported, at 3-month follow-up, day-time continence but use of 1 pad night-time. His ICIQ score was 6. Unfortunately, total-body CT scan showed multiple bones metastasis. He again refused chemotherapy and died 7 months after surgery for metastatic disease. Unfortunately immunotherapy, which has been shown to yield promise in other urological cancers<sup>11 12</sup>, was not available in those days.

Oncological follow-up in patient A was negative but at six-year annual follow-up (74 months after surgery) CT scan showed a 3.5 tumor of the left renal pelvis. He refused further surgical treatment and died 13 months later due to metastatic disease.

## DISCUSSION

In most clinical conditions, the role of age in planning treatment and determining its outcome is controversial. As for RC, there is evidence that very elderly patients have a high risk of perioperative morbidity and mortality. Specifically, the 30-day mortality rate in octogenarians reaches 14%, being significantly higher than that of younger patients<sup>13</sup>. Zattoni et al.<sup>14</sup>, though reporting that perioperative complication rates ranged from 11 to 67% in patients aged > 80 years, concluded that age alone did not represent a contraindication.

One of the most important determinant of complications is the type of urinary diversion. In a recent study analysing the impact of perioperative complications in patients aged > 75 years, major complications were reported in 27% of patients who underwent ileal conduit and in 36% of those who received cutaneous ureterostomy. Patrick et al. reported that overall survival was the best in patients who received an orthotopic neobladder, followed by those who had an ileal conduit, while it was worse in those who had cutaneous ureterostomy<sup>15</sup>. Of course these findings reflect patient selection, suggesting that the fittest patients received orthotopic neobladder while those in the worst general conditions received ureterocutaneostomy. Accordingly, our strategy is to offer ureterocutaneostomy to those who are not fit enough for an orthotopic neobladder.

We almost abandoned ileal conduit on the assumption that if a patient is fit enough for an ileal conduit (involving an ileal resection) than he is fit enough for an ileal orthotopic neobladder providing a viable urethra.

The present experience confirms that also well-selected octogenarians can safely be offered an orthotopic neobladder after RC. Cognitive status, motivation and specific support by dedicated continence nurse remain key issues in managing such patients as urinary continence is a key point in determining patient's satisfaction after this procedure. Sogni et al.<sup>16</sup> obtained day-time and night-time complete continence rates of 56 and 25%, respectively, in a cohort of patients 75y. Cerruto et al.<sup>17</sup> reported that ileal orthotopic neobladder provided better quality of life than ileal conduit in elderly patients as well.

An emerging issue is the role of robotic RC and orthotopic ileal neobladder in the elderly; the advantage of reduced invasivity is counterbalanced by length of the procedure and pneumoperitoneum<sup>18</sup>. Moreover, potential complications associated to specific procedural steps should be taken into account<sup>19</sup>.

Finally, other 3 factors deserve attention. First, like for other common urological diseases<sup>20-22</sup>, treatment should be tailored to patient local and clinical conditions and be based on wise clinical judgement. Second, case volume, which is proved to be true for RC and ileal neobladder as for many other surgical fields<sup>23</sup>. Third, tumor biological behaviour, as factors predicting disease outcome are proving to become more and more reliable<sup>24-32</sup>.

In conclusion, our two cases show that RC with orthotopic ileal neobladder is feasible in well-selected octogenarians. Good functional outcomes can be obtained provided good cognitive status and motivations as well as specialized continence support.

#### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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