

Radical Cystectomy in Patients with Muscle Invasive Bladder Cancer Aged >75 Years - Is it Prohibited?

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Background

Bladder tumors represent the most frequent urinary malignancy and radical cystectomy with urinary diversion is the standard of care for patients with muscle invasive or recurrent bladder cancer [1,2]. Due to high morbidity rates associated with surgical treatment, urologists are reluctant to perform such an invasive treatment to patients aged above 75 years old. However, marked improvements in healthcare and advances in medical technology, life expectancy has increased and subsequently, the proportion of elderly in the population has risen worldwide [3,4]. In 2010, more than 13% of USA population was comprised of people over 65 years and it is predicted to reach 20% by 2030 [5]. The data based on this new reality is scarce and contradictory. A number of papers advocate for more conservative/less aggressive treatments such as radiotherapy or bladder sparing techniques in the elderly population due to the invasiveness and increased complication rate of radical cystectomy [6]. In contrast, several authors have proved that chronological age alone is not an absolute contraindication for cystectomy and that this type of surgery can be performed safely in carefully selected patients [7-9]. Nonetheless, the management of Muscle invasive Bladder cancer in elderly patients remains a difficult clinical challenge for the urologist.

Chronological Age vs. Frailty

Traditionally, the term "elderly" has been defined as a chronological age of 65 years or more [10]. However, most of the authors who evaluated surgical outcomes, after radical cystectomy, have used the 75 year cutoff to define the elderly population [7]. The reason for choosing this threshold is not clinically based but, more likely, for statistical purposes due to small population of pts >80 years surgically treated. From a more practical point of view, the elderly population presents increased rates of postoperative morbidity and mortality, being less capable to tolerate the side effects of any therapy, including radical cystectomy and urinary diversion [11,12]. In addition, a large cohort of patients suffering from bladder cancer have a history of long term tobacco smoking that can significantly influence the oncological outcomes, due to the associated comorbidities such as chronic obstructive pulmonary disease, coronary heart disease, stroke, etc. [13,14]. Due to the aggressiveness of this disease, the traditional 5-10-15 year survival rates are not applicable in this setting, as a consequence, Skinner et al. suggested a life expectancy cut-off of 2 years in order to decide if a patient is fit for surgery [15]. However, even in cases of frail patients, the urologist is obliged to perform salvage cystectomy due to refractory hematuria, severe uncontrolled lower urinary tract symptoms or failed bladder sparing management. As a consequence, patients with advanced age should not be refused from receiving surgical treatment for bladder cancer and the decision to perform this type of surgery should be based on the clinical judgement rather than strictly following the guidelines. The associated comorbidities should be weighed against oncological outcomes and quality of life in the management of elderly patients with MIBC.

Complications after Surgical Treatment

Radical cystectomy is associated with increased morbidity, regardless of approach, surgical technique and advances in postoperative care. Mortality rates in elderly patients reported in the

literature vary significantly from 11-70% [7,16]. Moreover, besides mortality, perioperative complications after radical cystectomy are reported very heterogeneously. Most studies evaluating complications after RC have not used standardized reporting criteria, applied different definition of complications and the length of follow-up after surgery differed significantly [7]. However, regardless of the definition used, studies from high volume centers have reported lower complication rates varying between 0.9- 11% [17,18], suggesting that this type of surgery yields better results when performed by high volume surgeons in specialized tertiary care units. Postoperative care is paramount in these cases, since most of the complications are mainly medical, such as bronchopneumonia, deep vein thrombosis/pulmonary thromboembolism, delirium and myocardial infarction [7]. An experienced medical staff, including nurses, physical therapists and psychologists, which can quickly diagnose and treat postoperative complications, represent the key to minimize postoperative morbidity and mortality after radical cystectomy in elderly population.

Urinary Diversion

From a technical point of view, orthotopic neobladder can be performed in any patient undergoing radical cystectomy if all the required criteria are met. Several studies have reported good outcomes in elderly patients, in which neobladder was carried out [19,20]. However, this type of urinary diversion is rarely used in this cohort, since the majority of aging patients presents multiple comorbidities, decreased life expectancy and increased risk of urinary diversion related complications such as pyelonephritis, prolonged ileus, enteric fistula, etc. Ileal conduit represents the most commonly performed urinary diversion in this setting, with a significantly lower complication rate in comparison to orthotopic neobladder [21]. However, in our experience, cutaneous ureterostomy can provide excellent results, with good tolerance and an acceptable quality of life. This type of diversion requires a decreased operative time with diminished surgical trauma and presents a low rate of perioperative and urinary diversion related complications [9]. Cutaneous ureterostomy should be performed in patients with limited life expectancy, severe associated comorbidities and in also in cases in which ileal conduit is not technically feasible.

In conclusion, radical cystectomy represents a viable option for patients with muscle invasive bladder cancer, regardless of their chronological age. Ileal conduit represents the most frequently performed urinary diversion; however cutaneous ureterostomy may be a viable option in cases with limited life expectancy. Careful selection

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of patients and specialized care provided by tertiary units can provide excellent oncological and functional outcomes.

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