

Commentary: Bladder cancer

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Bladder cancer has become one of the most common cancer types globally, with an estimated more than 500,000 new cases diagnosed every year. Bladder cancer is also a complex disease with high morbidity and mortality if not managed optimally.^[1]

The treatment of bladder cancer mainly relies on the pathologic degree of disease during transurethral resection of bladder tumor (TURBT) is performed, and on the subsequent staging according to tumor lymph node metastasis. Non-muscle invasive bladder cancer (NMIBC) are most commonly treated with TURBT, followed by intravesical immunotherapy for tumors with greater risk of progression or recurrence, using the bacillus Calmette Guérin (BCG) or intravesical chemotherapy. Computed tomography or magnetic resonance imaging is commonly used to assess invasion outside the bladder. Due to the increased risk of progression and recurrence, bladder tumors that invade the muscles are usually treated with radical cystectomy and prolonged lymphadenectomy, followed by cisplatin-based neoadjuvant chemotherapy. For some patients, bladder preservation is also an option, which is usually followed by chemotherapy and radiation therapy.^[2]

BCG was excellent in preventing tumor recurrence in intermediate-risk and high-risk NMIBC patients. In the research conducted by Matsuoka et al, the authors evaluated the effectiveness and toxicity of intravesical BCG therapy in elderly patients compared with young patients, and found that they were not related to age; the elderly patients could receive the same treatment as younger patients in clinical practice. This is quite a significant and interesting study, for old age is generally accepted as the most important independent risk factor for bladder cancer. Therefore, the BCG treatment of elderly patients with high-risk NMIBC needs more further and specific study.

In another study conducted by Mohamed et al, they compared two treatment modalities, bladder preservation or radical cystectomy, of muscle-invasive bladder cancer, which is also an instructive study. Given the aggressive nature of muscle-invasive bladder cancer, radical cystectomy with neoadjuvant chemotherapy usually provides the best chance of cure.^[3] However, the authors found that bladder preservation was a safe alternative to cystectomy in transitional cell carcinoma stages T1–4aN0M0. They also pointed out that the use of bladder

preservation procedure in squamous cell carcinoma bladder cancer should be further studied, as it could be feasible to spare patients from initial cystectomy.

In the study of El Khatib, the author introduced a promising animal photodynamic therapy (PDT) study, which is a treatment modality based on the cytotoxic effect occurring in the target tissues by interaction of a photosensitizer with light in the presence of oxygen. In previous studies, the author had found that rat bladder instillations with 8 or 16 mM of hexyl aminolevulinic acid (hALA) resulted in diametrically opposed PDT efficiency. The current study investigated the photobleaching and localization pattern of protoporphyrin IX after both hALA intravesical instillations in tumor-bearing rat bladders, and found that the different response to PDT regarding the initial pro-drug concentration can thus be attributed to the different cellular localizations. This new technology may play an important role in the treatment of bladder cancer in the future.

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Statement of ethics

None.

Conflict of interest statement

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Author contributions

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