

Reducing Infection Risk During Intravesical BCG Through Nitrofurantoin Prophylaxis and Patient Education

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Background

Intravesical Bacillus Calmette-Guérin (BCG) is the standard adjuvant treatment for intermediate- and high-risk non-muscle invasive bladder cancer. Urinary tract infections (UTIs) and poor adherence to hygiene recommendations may lead to treatment delays, unnecessary antibiotic use, and patient anxiety. We implemented a quality improvement initiative to evaluate whether standardized patient education combined with targeted nitrofurantoin prophylaxis in selected patients could reduce infectious complications during BCG therapy.

Methods

Adult patients receiving intravesical BCG were enrolled in a prospective quality improvement pilot. The intervention included standardized counselling on hydration, genital hygiene, safe urine disposal after BCG instillation, recognition of infection symptoms, and treatment adherence. Nitrofurantoin prophylaxis was prescribed according to institutional clinical assessment for patients considered at increased risk of recurrent urinary tract infections. The primary outcome was symptomatic UTI requiring antibiotic treatment or postponement

of BCG. Secondary outcomes included treatment completion, emergency department visits, and patient adherence to hygiene recommendations.

Results

Twenty patients completed the pilot implementation. Data collection included rates of symptomatic UTI, treatment interruptions, emergency department attendance, and patient-reported adherence to hygiene practices. Comparative analysis between baseline and post-intervention periods will evaluate the feasibility and clinical impact of combining structured education with selective antimicrobial prophylaxis.

Conclusions

This quality improvement initiative demonstrates the feasibility of integrating standardized patient education with risk-based nitrofurantoin prophylaxis during intravesical BCG therapy. The findings will inform larger prospective studies evaluating strategies to reduce treatment interruptions and improve patient safety during bladder cancer care.