Improving Practice Patterns in Patients with Newly Diagnosed Bladder Masses Treated with Transurethral Resection

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Introduction

In comparison to low grade bladder tumors, high grade bladder tumors exhibit significantly higher rates of progression and death[1]. Because of this, repeat transurethral resection (reTUR) is indicated for high risk, high grade Ta tumors and T1 tumors, ideally within 6 weeks, as studies have shown residual tumor in up to 54% of high grade Ta tumors and 67% of T1 tumors[2-3]. In addition to removal of residual tumor, the purpose of performing a reTUR is to improve accurate staging. Clinical upstaging occurred in approximately 30% of cases on reTUR, with this value increasing to 40-50% if detrusor muscle was absent on specimen obtained from initial transurethral resection of bladder tumor (TURBT) [4-5]. Furthermore, Herr et al reported approximately 51% of initial TURBT specimens are without muscle[3].

Objectives

The purpose of this study was to assess and improve TURBT quality by making surgeons aware of their practice patterns and setting improvement goals.

Methods

Patients undergoing TURBT for a newly diagnosed bladder mass were analyzed during the 9 months before and after intervention. Primary endpoints were the presence of muscle on initial TURBT (iTURBT), and whether a reTUR was performed when clinically indicated. Initial results were presented to the physicians and a second dataset was then collected to assess for changes in practice patterns. Analysis was performed using Fisher's exact test to determine differences in categorical data. $P<0.05$ was considered statistically significant.

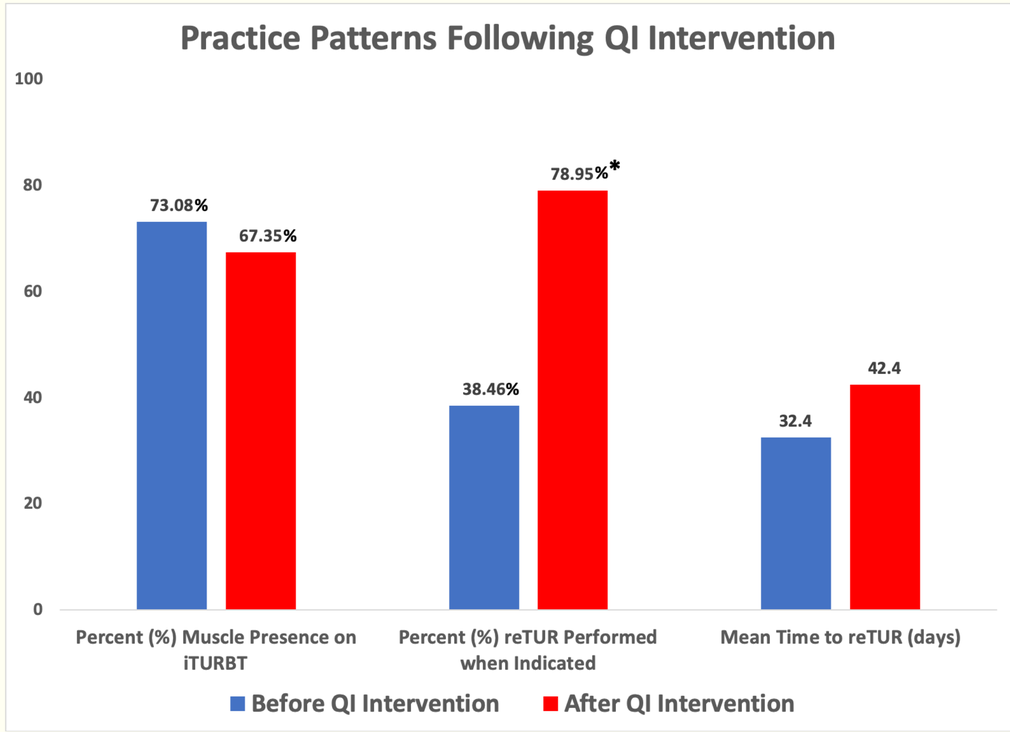

Figure 1: Comparison of frequency of muscle presence on iTURBT, frequency of reTUR performed when indicated, and mean time to reTUR before and after QI intervention. Frequency of reTUR performed when indicated was the only statistically significant change, as indicated by the asterix..

Results

After comparing the TURBT results before and after our quality improvement intervention, we found a significant improvement in the number of patients receiving a reTUR with 5/13 (38%) before compared to 15/19 (79%) after, $P=0.03$. The number of specimens on initial TURBT with muscle present were not significantly different with 38/52 (73%) before and 33/49 (67%) after. The average time to reTUR before and after QI intervention was 32.4 days and 42.4 days, respectively.

Conclusion

Our data suggests critical analysis of practice patterns and setting improvement goals can significantly impact clinical practices, with the greatest improvement in this study being frequency of reTUR performed when indicated. Given the rates of residual tumor detected and upstaging on reTUR, previously discussed, this increased frequency may lead to more complete resection, accurate staging, and proper treatment. Future studies will be performed to determine the impact these changes have on oncologic outcomes.

References

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