Humanistic Consequences of Preventable Bladder Tumor Recurrences in Non-Muscle Invasive Bladder Cancer

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ABSTRACT

OBJECTIVES: Bladder cancer is a common malignancy with ~70,500 incident cases per year in the US; 70% present as non-muscle invasive bladder cancer (NMIBC). Perioperative instillation of chemotherapy is a well-established therapy for the treatment of NMIBC, however, there is limited evidence to guide its use. The objective of this analysis was to estimate the humanistic burden associated with preventable bladder cancer recurrences.

METHODS: A decision-analytic model was developed to estimate the loss of quality-adjusted life years (QALYs) due to the failure to receive perioperative chemotherapy (PC). Preventable bladder cancer recurrences were estimated by adjusting 2-year recurrence rates for TURBT alone and 36% for TURBT + instillation. Utility loss was estimated based on comparable health state utilities.

RESULTS: It was estimated that 26.6% of those receiving BCG induction; and 7% of patients received MMC induction. The recurrence rate for TURBT alone was 53% versus 36% for TURBT + instillation this translates into an expected utility loss of 0.022 years lost annually. The total utility loss was calculated by multiplying the number of preventable recurrences by the utility loss associated with a single recurrence.

CONCLUSIONS: The model estimates ~710,000 NMIBC recurrences would be prevented annually.}

METHODS

Model Overview

A decision-analytic model was built using Microsoft Excel 2007 software to estimate the utility loss associated with preventable bladder cancer recurrences. The perspective adopted was that of the US health care system. A decision-analytic model was built using Microsoft Excel 2007 software to estimate the utility loss associated with preventable bladder cancer recurrences. The recurrence rate for TURBT alone was 53% versus 36% for TURBT + instillation this translates into an expected utility loss of 0.022 years lost annually. The total utility loss was calculated by multiplying the number of preventable recurrences by the utility loss associated with a single recurrence.

RESULTS

The model estimates ~710,000 NMIBC recurrences would be prevented annually.