INTRODUCTION AND OBJECTIVES: Radical prostatectomy (RP) and radiotherapy provide comparable health related quality of life (HRQOL) and oncologic outcomes in the treatment of localized prostate cancer (PCa), but have wide cost variations. Prior cost studies of these treatments have not been risk-adjusted for oncological characteristics, which are hypothesized as a potential explanation for the cost discrepancies. We set to evaluate risk-adjusted hospital costs associated with modern PCa therapies.

METHODS: An institutional data repository was queried for hospital patients from 2005 to 2009 with a primary admission code for PCa and primary procedure codes for RP, brachytherapy (BT), intensity modulated radiotherapy (IMRT), or combination treatment. All hospital costs related to the primary procedure were analyzed as assigned by the hospital, a multidisciplinary PCa program at a tertiary care, urban academic center. All patients with complete clinical and billing information were included. Total hospital costs were adjusted to 2009 USD and analyzed per patient overall and by D’Amico risk classification.

RESULTS: 1871 localized PCa patients (median age: 62) were identified. BT was the least expensive treatment with a total cost of $7,483, but was not routinely used as monotherapy for high-risk patients. The median total costs for IMRT monotherapy ($17,595) and BT+IMRT ($22,386) combination therapy was significantly higher than any other treatment type, although these patients had worse pathologic features. Costs of RP in combination with IMRT in the adjuvant or salvage setting were higher than the BT+IMRT group ($24,897). These trends remained consistent when stratified by risk group.

CONCLUSIONS: In a high volume setting, RALP and BT are the least expensive modalities for treating low and intermediate risk PCa. For high risk patients, all forms of RP and IMRT alone were less expensive than combination therapy.

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Figure: Treatment Costs of Primary Prostate Cancer Treatments, Stratified by D’Amico Risk Group