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Inpatient morbidity and cost of cytoreductive radical prostatectomy in the United States

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Inpatient morbidity and cost of cytoreductive radical prostatectomy in the United States

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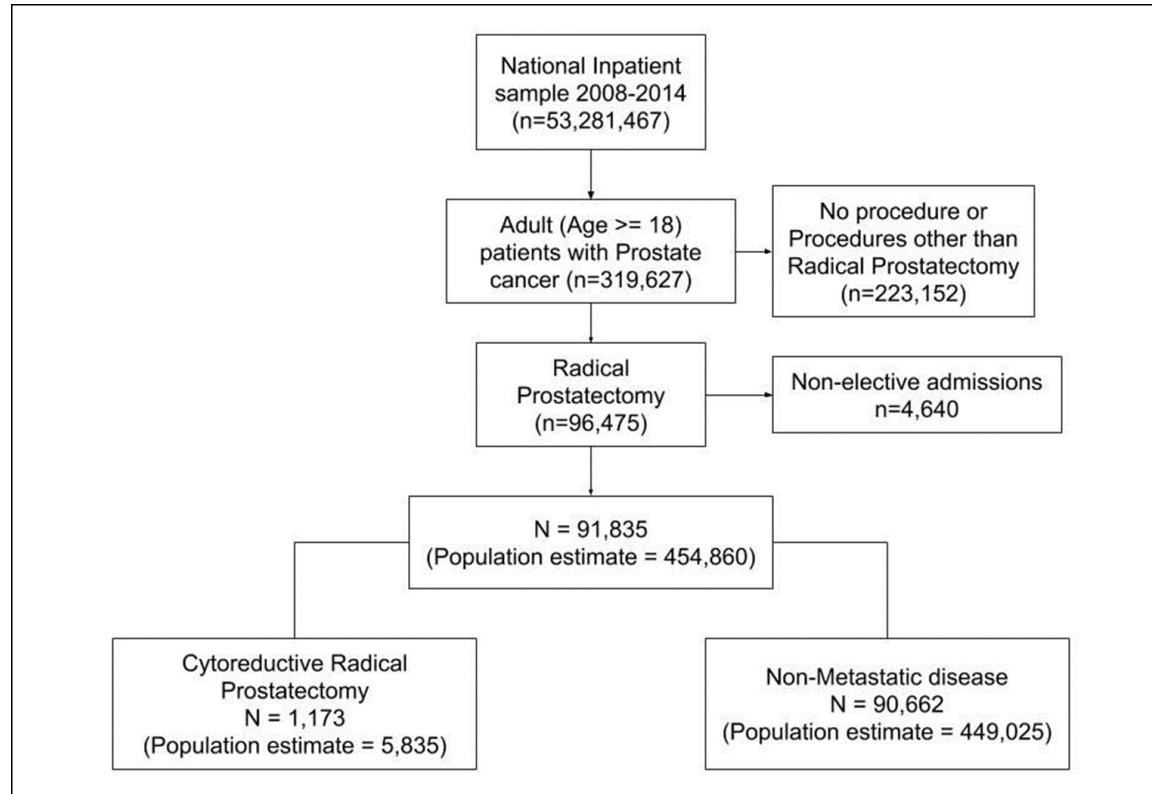
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Introduction

- Metastatic prostate cancer is associated with significant morbidity and poor overall survival.
- Recent analysis of the National Cancer Database showed that local treatment in metastatic prostate cancer may be associated with better 3-year overall survival compared to no local treatment.
- Clinical trials are currently examining the role of primary radiation or radical prostatectomy (RP) in this setting.
- While the safety of RP in localized prostate cancer is proven, few studies have looked at perioperative complication rates and cost of cytoreductive RP at a national level.

Methods

- Database used: Healthcare Cost and Utilization Project National Inpatient Sample (NIS)



Methods

- **Patient cohort:** A total of 91,835 records met inclusion criteria (estimated 454,860 RPs per NIS survey weights). Of these 1,173 had cytoreductive RP (Estimated 5,835 cases).
- **Primary Outcome:** Inpatient complications
- **Secondary outcomes:** In-hospital mortality, individual complications, length of hospital stay, and total cost.
- HCUP cost-to-charge files were used to calculate **total cost**, which was inflation-adjusted to 2014 dollars
- **Covariates:** Age, race, Charlson Comorbidity score, insurance status, rural/semi-urban/urban location, income, hospital location (rural/urban), hospital teaching status, geographical location, and hospital volume

Key results

- Any inpatient complications occurred in 14.9% records; This number was higher in patients undergoing cytoreductive RP [19.1% vs. 14.9% in the nonmetastatic group; $p=0.008$].
- On multivariable analysis, presence of metastasis was an independent predictor for any complications (Odds ratio [Confidence interval] 1.329 [1.077-1.640] $p=0.008$).

Results

Inpatient Complications for Patients with Prostate Cancer Treated with RP

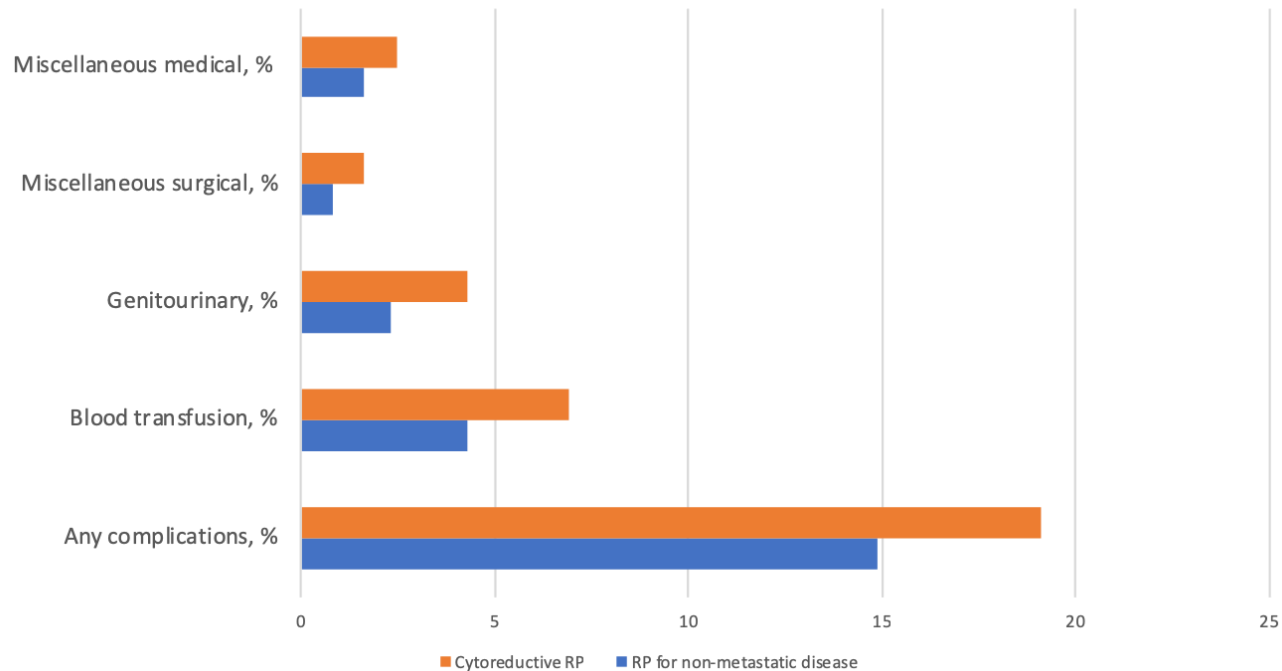


Figure 1: Inpatient complications of 91,835 patients with prostate cancer treated with radical prostatectomy (RP) within the NIS from 2008 to 2014, stratified by the presence of metastatic disease.

Figure 2: Length of hospital stay in days in cytoreductive RP as compared to RP in non-metastatic disease patients

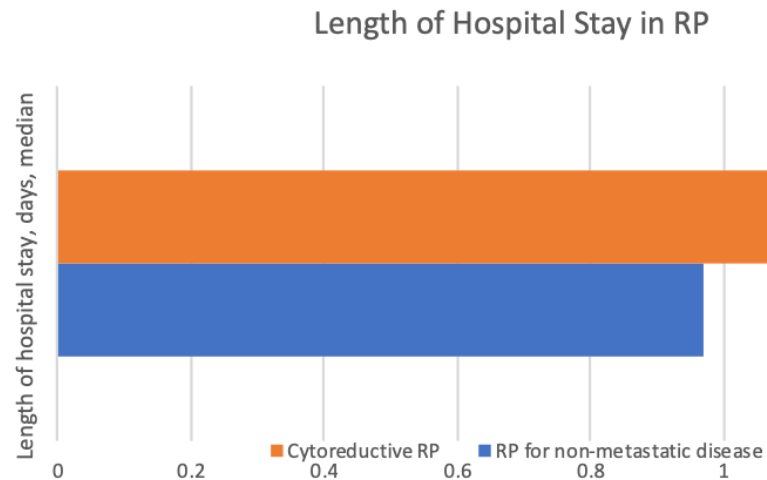
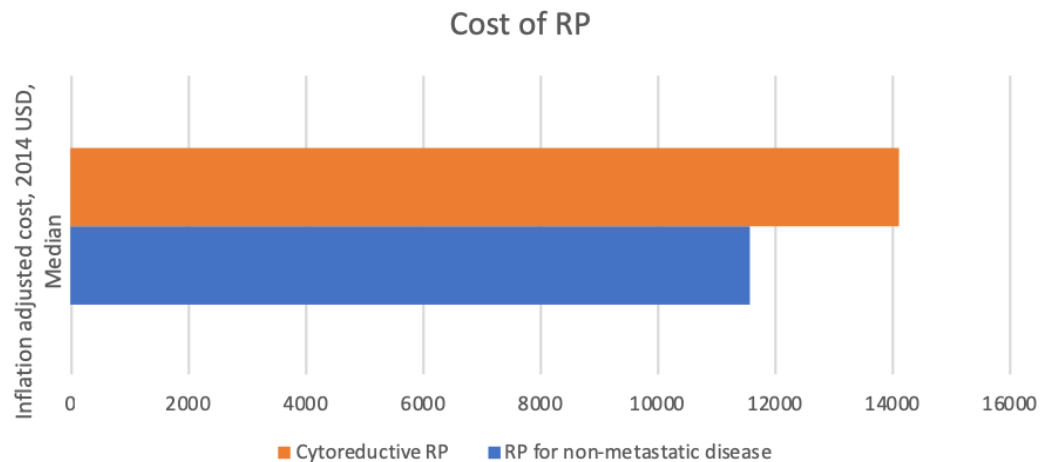


Figure 3: Inflation adjusted cost in USD cytoreductive RP as compared to RP in metastatic disease patients

RP: Radical prost

Conclusion

- cRP is associated with higher inpatient morbidity, longer hospital stay, and higher cost compared to RP for nonmetastatic disease.
- This information may be valuable for informed decision-making in practice and before recruiting patients in clinical trials on this subject.