

Outcomes of Radical Prostatectomy for Localized Prostate Cancer in African American Patients: Systematic Review and Meta-analysis of Contemporary Literature

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ABSTRACT

INTRODUCTION AND OBJECTIVES: African American (AA) race is known for a higher risk of harboring aggressive prostate cancer (PCa) and subsequent inferior prognosis. To date, no meta-analysis addressing the outcomes of radical prostatectomy (RP) in AA patients is known. We performed a meta-analysis of manuscripts describing radical prostatectomy (RP) for PCa in AAs to assess the risk in this cohort.

METHODS: A comprehensive Medline review of peer-reviewed manuscripts reporting outcomes following RP in AA populations from 1995 to September 2017 was performed. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were utilized. Patient demographics, preoperative, pathologic, and oncologic outcomes were collected. Forest plots summarizing outcomes for each study and pooled overall effects were generated. Data from individual studies were analyzed using RevMan5.

RESULTS: Out of 361 studies reviewed, 22 retrospective studies comprising 20,614 patients were included and analyzed. Average age, prostate specific antigen (PSA), and follow-up were 59.6 years, 8.5 ng/dL, and 41.8 months (range 6-133), respectively. Most patients were low risk; 63.8% were stage cT1c, and 74.6% had biopsy Gleason score (GS) 6. Positive surgical margin rate was 28.2%; positive lymph nodes 1.7%; biochemical recurrence (BCR) 20.8% (Figure 1); and stage pT3+ in 23.1% with risk ratio of 0.30 (95% CI, 0.28-0.32) (Figure 2). Risk of pathologic upgrading to high risk GS (8-10) was 1.17 (95% CI, 0.81-1.67). Pathologic outcomes and BCR were reported by most studies as primary endpoints. However, only 3 studies reported adjuvant therapy, metastasis rates, or PCa-specific mortality.

CONCLUSIONS: Our meta-analysis demonstrates that most AAs treated with RP had pre-operative low risk disease. Pathologic outcomes and BCR are frequently reported as outcomes measures. Prospective controlled studies with longer follow up and adequate reporting on metastasis and survival data are needed.

RESULTS

Figure 1: Forest plot of biochemical recurrence following radical prostatectomy in African Americans

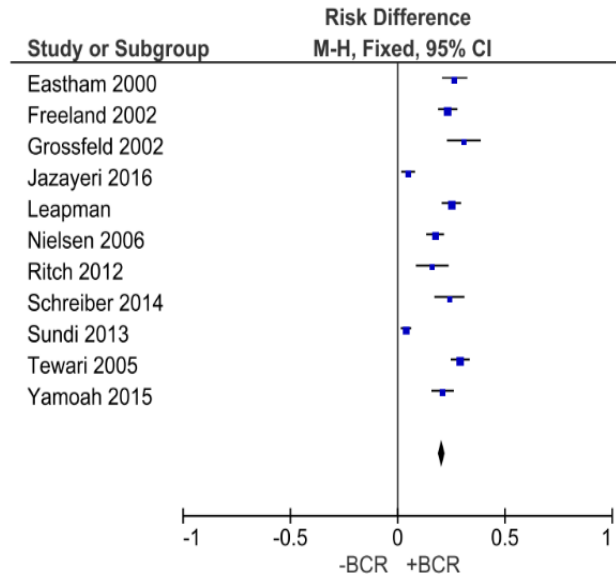
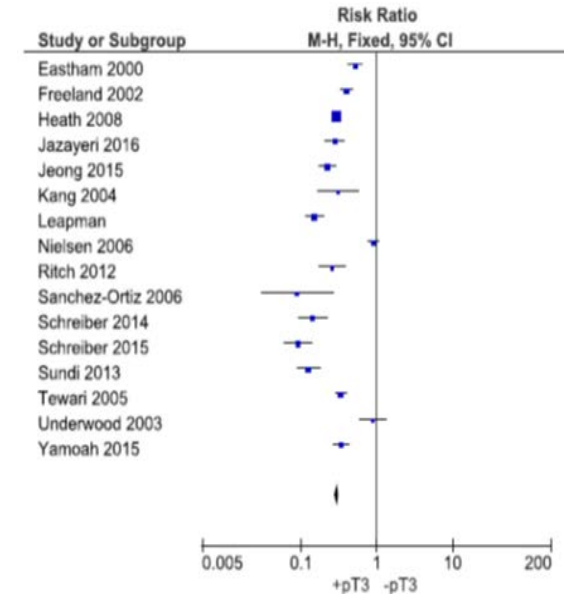


Figure 2: Forest plot of locally advanced disease on final pathology among African Americans



SUMMARY

- Most AAs treated with RP had pre-operative low-risk disease
- Pathologic outcomes and BCR are frequently reported outcomes measures
- Prospective controlled studies with longer follow up and adequate reporting on metastasis and survival data are needed