Title: Radical Prostatectomy versus observation for localized prostate cancer

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I. Background:
Prostate cancer is the leading cancer among men in the U.S.

In 2011, approximately 240,890 men were diagnosed with prostate cancer and 33,720 died of it.

The incidence of prostate cancer increases with age and can be a major cause of disability and impaired outcomes such as functional status, health related quality of life (HRQoL) and psychological well-being.

A majority of men with early stage, low-risk prostate cancer receive definitive therapy and are exposed to treatment related morbidities.

Men with low risk prostate cancer continue to experience treatment-related problems long after the treatment and would like to maximize their HRQoL and psychological well-being.

II. Objective/Hypothesis of the study
The objective of the study was to examine the effectiveness of surgery versus observation for men with localized prostate cancer detected by means of prostate-specific antigen (PSA) testing.

III. Methods
Randomized Clinical Trial.

13,022 men with newly diagnosed prostate cancer were screened
Hospitals = 44 Department of Veterans Affairs sites and 8 national cancer institute sites.

Study sample: 731 - randomized to radical prostatectomy (364 men) or observation (367).
Inclusion criteria: Localized prostate cancer - T1-T2 Nx Mo, PSA < 50 ng/ml, and age<75 years.

Followup up: 15 years.

Intervention
Radical prostatectomy

Outcomes:
All cause mortality and prostate cancer specific mortality.

Analysis
Intent to treat
Kaplan-Meier

IV Results
Mean age = 67 years, median PSA = 7.8 ng/ml, and majority were black.

The absolute reduction in mortality with radical prostatectomy was not significant at any interval and declined over time, from 4.6 percentage points (95% CI, -0.2 to 9.3) at 4 years to 2.9 percentage points (95% CI, -4.2 to 10.0) at 12 years.

At 12 years, radical prostatectomy was associated with a non-significant absolute reduction in mortality of 3.0 percentage points, as compared with observation (4.4 vs. 7.4 percentage points; relative risk, 0.60; 95% CI, 0.33 to 1.09), declining slightly at the end of the study.

V. Authors conclusions
Among men with localized prostate cancer detected during the early era of PSA testing, radical prostatectomy did not significantly reduce all-cause or prostate-cancer mortality, as compared with observation, through at least 12 years of follow-up. Absolute differences were less than 3 percentage points.

VI. Reviewers Critique
Overall, informative and excellent study.

VII Summary for practice implications
1. Active surveillance is a viable options for elderly men with low risk prostate cancer.
2. Coming up with appropriate active surveillance strategy is challenging.
3. Issues related to treatment heterogeneity remain.
4. More research is needed to identify markers (and clinical guidelines) during the follow-up period.
5. Assessment of patient centered outcomes and preferences is crucial.
6. More research is needed in developing decision aids and educational materials.