Active Surveillance for Prostate Cancer: Is It Safe?

Introduction and Objectives: Patients with low grade cancer on biopsy can be allocated to surveillance because of presumed indolent behaviour. We compared our preoperative biopsies with final radical prostatectomy specimens and determined the change in grade of disease, particularly Gleason 6 being upgraded. At least 1/3 of these patients were upgraded to intermediate and high risk Gleason scores.
Materials and Methods: A retrospective and prospective study of 954 patients undergoing biopsy.
410 had cancer
Gleason 6 = 47%
Gleason 7 = 33%
Gleason >7 = 20%

We then compared 550 patients undergoing radical prostatectomy and compared their pre op biopsies with final pathology grade.

Biopsy score.
Gleason 6 = 62%
Gleason 7 = 32%
Gleason >7 =6%

Prostatectomy score.
Gleason 6 = 38%
Gleason 7 = 48%
Gleason >7 = 14%
P value and statistical significance:
Chi squared equals 162.573 with 2 degrees of freedom.
The two-tailed P value is less than 0.0001
By conventional criteria, this difference is considered to be extremely statistically significant.
Results: Final pathology shows that a more than a 1/3 of Gleason 6 patients were upgraded to Gleason 7 or higher. There was 62% of patients who were low grade disease from their biopsy result, transforming to 62% high/intermediate grade on final pathology. Many small localised well-differentiated tumours will not progress and radical therapy may lead to overtreatment. However a significant number of tumours presumed to be low grade from biopsy are in actuality of a higher grade with a greater propensity for progression that could be missed on a surveillance program. Cuzick and Albertson have both shown significant increases in mortality from prostate cancer and mortality from other causes with Gleason 7 disease and to an even greater extent with Gleason 8-10 scores of whom only 6% of patients had this on biopsy yet 14% on final pathology.
Conclusion: Caution needs to be implemented with biopsy scores and subsequent allocation of patients to radical treatment or surveillance.