

PROSTATE CANCER

Predominance of Gleason pattern 4 predicts mortality

A study from Harvard has confirmed that consideration of the primary and

secondary patterns that make up a Gleason score of 7 can improve prediction of prostate cancer survival. "Men with a Gleason score of 4 + 3 at prostatectomy were more likely to develop lethal prostate cancer than men with a score of 3 + 4," states lead author Jennifer Stark.

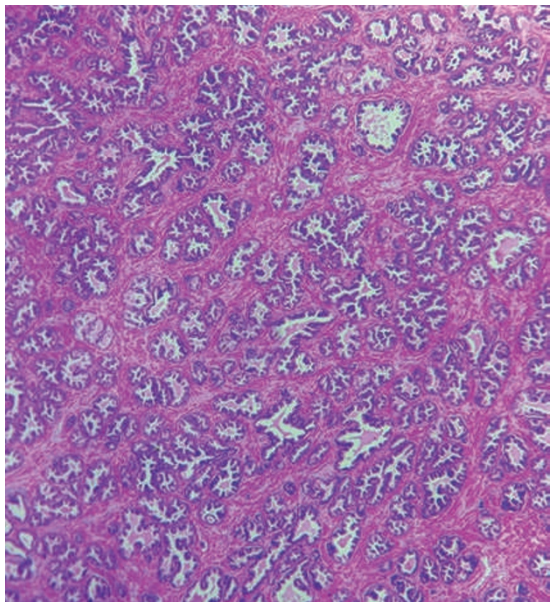
The investigators performed a blinded, standardized re-review of 693 prostatectomy samples and 119 biopsy specimens from patients diagnosed with prostate cancer between 1984 and 2004. New primary and secondary Gleason patterns were assigned and the risk of lethal prostate cancer (defined as death or development of bony metastases) was estimated for grades 2–5, 6, 3 + 4, 4 + 3, 8 and 9–10. A 3.1-fold increase in prostate cancer mortality was observed in patients with 4 + 3 tumors compared with 3 + 4 tumors. Although previous studies have identified such a relationship, Stark and colleagues are the first to use

prostate cancer lethality as the primary end point, rather than a surrogate such as biochemical recurrence.

Stark and colleagues also examined how Gleason scoring has changed over the years, and found a significant upgrading. They observed a 61% increase in the number of prostatectomy specimens assigned a Gleason score of 9–10 and a 97% decrease in samples with grade 2–5 in their analysis compared with the original scores. However, the contemporary grading did predict prostate cancer mortality more accurately; none of the 41 men assigned Gleason score 2–6 in the re-review died as a result of their prostate cancer or developed bony metastases.

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Original article Stark, J. R. *et al.* Gleason score and lethal prostate cancer: does 3 + 4 = 4 + 3? *J. Clin. Oncol.* 27, 3459–3464 (2009).



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