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Abstract

WHAT’S KNOWN ON THE SUBJECT?: In recent years there has been a shift upwards of how Gleason grading of prostate cancer is applied. At an International Society of Urological Pathology (ISUP) consensus meeting in 2005 recommendations were issued that might have contributed to this trend.

OBJECTIVES: To study long-term trends in Gleason grading in a nation-wide population. To assess the impact of the ISUP revision of the Gleason system on grading practices.

SUBJECTS AND METHODS: All newly diagnosed prostate cancers in Sweden are reported to the National Prostate Cancer Register (NPCR). In 97168 men with a primary diagnosis of prostate cancer on needle biopsy from 1998-2011, Gleason score (GS), clinical T stage (cT) and S-PSA (S-PSA) at diagnosis were analyzed.

RESULTS: A GS, cT and S-PSA was reported to NPCR in 97%, 99% and 99% of cases. Before and after 2005, GS 7-10 was diagnosed in 52% and 57%, respectively (p <0.001). After standardization for cT and S-PSA with 1998 as baseline these tumours increased from 59% to 72%. Among low-risk tumours (stage T1c and S-PSA 4-10 ng/ml) GS 7-10 increased from 16% 1998 to 40% 2011 (p <0.001), mean 19% and 33% before and after 2005 (p <0.001). Among high-risk tumours (stage T3 and S-PSA 20-50 ng/ml) GS 7-10 increased from 65% 1998 to 94% 2011 (p <0.001), mean 78% and 90% before and after 2005 (p <0.001). A GS 2-5 was reported in 27% 1998 and 1% 2011. GS 5 decreased sharply after 2005 and GS 2-4 was almost abandoned.

CONCLUSIONS: There has been a gradual shift towards higher Gleason grading that started early but became more evident after the ISUP 2005 revision. Among low-stage tumours reporting of GS 7-10 was more than doubled during the study period. When corrected for stage migration upgrading is considerable the last decade. This has clinical consequences for therapy decisions such as eligibility for active surveillance. Grading systems need to be as stable as possible to enable comparisons over time and to facilitate the interpretation of the prognostic impact of grade.

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KEYWORDS: Gleason grade, needle biopsy, pathology, prostate cancer

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