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LONG TERM PROGRESSION-FREE, OVERALL AND CANCER-SPECIFIC SURVIVAL IN FAMILIAL CANCER PATIENTS IN GERMANY

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Introduction & Objectives: There is consent that a positive family history of prostate cancer is one of the greatest risk factors for prostate cancer (PC). But there are conflicting reports regarding the effect of family history on prognosis of prostate cancer patients. The aim of this study was to determine the impact of a positive family history on survival of prostate cancer patients after radical prostatectomy in Germany.

Material & Methods: In the national research program "Familial prostate cancer in Germany" data on follow-up and family history of prostate cancer patients in Germany has been collected since 1993. 10.349 prostate cancer patients who underwent radical prostatectomy were classified as sporadic (SPC), familial (FPC) and hereditary (HPC) cases. Progression free survival (PFS), overall survival (OS) and cancer specific survival (CSS) after radical prostatectomy in SPC, FPC and HPC cases was analysed according to the method of Kaplan and Meier defining progression as a Serum-PSA of ≥0.2 ng/ml and compared with a log-rank test. A subgroup of 8041 patients Gleason-Score was classified into risk groups: low, intermediate or high risk PC. Associations between risk group and seminal vesical infiltration, lymph node (LN) metastasis and organ confined disease adjusted for familial status and between familial status and seminal vesical infiltration, LN metastasis and organ confined disease adjusted for risk group were analyzed using the Cochran-Mantel-Haenszel test. The impact of risk group and familial status on PFS rates was analyzed in a proportional hazards regression.

Results: We found 872 (8.4%) HPC cases, 2.509 ($\overline{24.2\%}$) FPC cases and 6.968 (67%) SPC cases. The 10-year PFS rate was 49% in the SPC group, 46% in the FPC group and 45% in the HPC group. The 10-year OS rate was 86%, 84%

and 80% in SPC, FPC and HPC cases. The 10-year CSS rate was 93% in the SPC group, 91% in the FPC group and 87% in the HPC group. Survival of SPC, FPC and HPC cases was remarkably different (p=0.007 for PFS, p<0.001 for OS, p<0.001 for CSS). In the subgroup, 2100 (26.1%) were at low risk, 4169 (51.9%) at intermediate risk and 1772 (22.0%) at high risk. Adjusted for familial status, a strong association between risk group and seminal vesical infiltration, LN metastasis and organ confined disease was observed (all: p<0.001). Adjusted for risk group distribution, familial status was not associated with seminal vesical infiltration (p=0.7328), LN metastasis (p=0.9923) and organ confined disease (p=0.5237).

Conclusions: In our follow-up analysis of 10.349 PC patients after radical prostatectomy in Germany, long-term PFS, OS and CSS of patients with a positive family history of PC was different to those without a family history. Our findings suggest that hereditary prostate cancer may have a slightly more aggressive course than sporadic PC.