anatomic aspects: a translucent prostate gland (light orange), a surface-rendered index lesion (red), and bilateral NVBs (yellow).

RESULTS: Because the MRI-visible index lesions had a high probability of ECE, the surgical recommendation was to dissect a slightly wider (1 mm) area of periprostatic tissue at that precise site to achieve negative margins during NS-RRP. Pathology examination of step-sectioned prostatectomy specimens revealed accurate concordance between the 3D printed model and the histologic location of the index lesion/ECE, resulting in negative surgical margins in all these challenging high-risk cases [pT2c (n=1), pT3a (n=2), and pT3b (n=2)].

CONCLUSIONS: The novel 3D printed models assisted in preand intra-operative decision making as regards optimal technique of dissecting NVBs and periprostatic tissues in the vicinity of index lesion with high risk for microscopic ECE, resulting in negative surgical margins while still attempting to maximize NVB preservation.

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PD30-11
PROGNOSTIC FACTORS FOR BIOCHEMICAL RECURRENCE MORE THAN TEN YEARS AFTER RADICAL PROSTATECTOMY
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INTRODUCTION AND OBJECTIVES: Some patients with long postoperative intervals of undetectable prostate-specific antigen (PSA) are still at risk of biochemical recurrence (BCR). Despite its financial and psychological burden, PSA surveillance beyond the 10th year of BCR-free survival might be justified for these patients. Pathologic Gleason Score and tumor stage were previously identified as prognostic factors for BCR more than 10 years after radical prostatectomy. This study aims at identifying additional prognostic factors for late BCR including cancer family history.

METHODS: 10,310 Patients who underwent radical prostatectomy for non-metastatic prostate cancer between 1979 and 2015 were identified from the German, prospective, multi-center database "familial prostate cancer". No patient received neo-/adjuvant therapy. A subgroup of patients with a follow-up of >10 years with undetectable PSA were identified (n=2480). BCR (PSA ≥ 0.2 ng/ml) occurring >10 years after radical prostatectomy was defined as late BCR. Multiple proportional hazards regression with forward selection was carried out to determine prognostic factors for late BCR including clinico-pathological features, patient’s cancer history, other cancer family history, prostate cancer family history (hereditary vs. familial of first degree vs. non-familial of first degree prostate cancer) and mode of inheritance of prostate cancer.

RESULTS: The median follow-up was 8.3 years (range 0.0-31.5 years). Kaplan-Meier estimates of BCR at 10, 15 and 20 years were 34.3% (95%CI 33.2%-35.5%), 44.0% (95%CI 42.4%-45.6%) and 52.7% (95%CI 48.7%-56.9%), respectively. 249 out of 2480 patients with undetectable PSA 10 years after radical prostatectomy had subsequent BCR; median follow-up was 12.8 years (10.0-31.5 years). On multiple hazards regression analysis with forward selection, the factors associated with late biochemical recurrence were age at surgery (per year: HR 1.04 [1.01-1.07], p=0.027), PSA level at diagnosis (per ng/ml: HR 1.02 [1.01-1.04], p=0.020), pathologic tumor stage (≥ pT3a vs. < pT2c: HR 1.50 [0.97-2.32], p=0.085) and pathologic Gleason score (categorical B-10, 7b, 7, 7a, 2-6, p=0.002).

CONCLUSIONS: From 10 to 15 years after radical prostatectomy, BCR-rate increased 9.7%; from 10 to 20 years after radical prostatectomy, BCR-rate increased 18.4%. Age at surgery and PSA level at diagnosis were prognostic factors for late BCR along with pathologic tumor stage and Gleason score as previously known prognostic factors. Hereditary and first-degree prostate cancer family history were not associated with late BCR.

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PD30-12
PREDICTIVE FACTORS AND ONCOLOGICAL OUTCOMES OF PERSISTENTLY ELEVATED PROSTATE-SPECIFIC ANTIGEN IN PATIENTS FOLLOWING ROBOT ASSISTED RADICAL PROSTATECTOMY
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INTRODUCTION AND OBJECTIVES: Our aim was to evaluate factors associated with persistently elevated prostate specific antigen (PSA) and biochemical recurrence following robotic assisted radical prostatectomy (RARP).

METHODS: The study population (N=5300) consisted of consecutive patients who underwent RARP for localized prostate cancer by a single surgeon (VP) from January 2008 through July 2013. A query of our Institutional Review Board approved registry identified 162 men with persistently elevated PSA (group A), defined as PSA level = 0.1 ng/ml at 6 weeks after surgery, who were compared with rest of cohort group having undetectable PSA, group B (< 0.1 ng/ml). A univariate and multivariate logistic regression analysis was used to evaluate the significant association between various variables and following: a) persistently elevated PSA b) BCR (PSA value = 0.2 ng/ml ) on follow up in persistent PSA group.

RESULTS: On multivariate analysis, only following parameters were significantly associated with persistent PSA after RARP – Preoperative [PSA > 10 ng/ml (p=0.01), Gleason Score =8 (p=0.001) and clinical stage (p=0.001)]; Postoperative[Pathologic stage (p=0.001), extraprostatic extension (EPE, p=0.01), lymph node positivity (p=0.001), positive surgical margin (PSM, p=0.02), Gleason Score (p=0.01), tumor volume percent (p<0.001)]. The BCR was significantly higher in group A as compared to group B (52.47% vs 7.9%) respectively;p=0.01). The mean time to BCR was significantly lesser in group A as compared to group B (8.9 months vs 21.1 months respectively;p=0.01). The BCR free survival rates at 1 year and 3 years were significantly lower statistically in persistent PSA group in comparison to other group (69.7 % vs 97.3% and 48.5% vs 92.1% respectively;p=0.01). On multivariate logistic regression analysis in patients with persistent PSA on follow up, preoperative PSA > 10 ng/ml, postoperative Gleason score =8, postoperative stage= pT3, positive pelvic lymph nodes, PSM > 3 mm and post RARP PSA doubling time (DT) < 10 months (p<0.001) were significantly associated with BCR.

CONCLUSIONS: In patients after RARP, factors associated with aggressive disease (high preoperative PSA, Gleason score =8, stage= T3, PSM, high tumor volume percent and EPE) predict PSA persistence. Although, these patients with persistent PSA after RARP are more likely to have BCR and that too earlier than those patients with undetectable PSA after RARP. However, there is a significant proportion of these patients (47.53%) who remain free of BCR.

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