PE21 The prediction of positive surgical margin after robotic assisted radical prostatectomy in a high volume Asian medical center

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Introduction & Objectives: Positive surgical margins [PSM] detected in the radical prostatectomy [RP] specimens increase the risk of biochemical recurrence. We try to find possible predictors for PSM after RP. It was still controversial issue whether performing NS will affect PSM. We compared the clinical results of PSM in stratified pT2/3 stage when taking NS during RARP.

Materials & Methods: We evaluated historic cohort RARP patients treated by single surgeon in Taipei Veterans General Hospital from 2010 to 2018. We examined clinical correlated data including age, BMI, PSA, GS in biopsy specimens, prostate weight, pathologic T2/T3 stage, previous TURP, previous abdominal surgery, prominent prostate median lobe, operative timing, estimated blood loss and experience of surgical cases with relation to PSM identified by the pathologists. We compared the association between the laterality of NS and the location of PSM.

Results: Of 420 eligible patients, 127 patients (30.2%) had a PSM identified by a postoperative pathological examination. Pathological T3 stage had higher PSM rate (p<.001). Approximately 12.1% (22/182) of patients with pT2-category disease and 44.1% (105/238) of patients with pT3-category disease had a PSM. Preoperative PSA (p<.001), GS group (p=.025) and estimated blood loss (p=.017) were significant predictors for PSM in RP specimens. Half of patients with PSA >9 ng/ml and 37% of GS group over than two had a PSM after RARP. PSM rate increased with directly proportional to large amount of blood loss during RARP. There was no significant difference between PSM and parameters characterized by age, BMI, prostate weight and operative time. There was an constant trend around 30% of PSM by single surgeon's experience in initial 400 cases. Factors of complex surgeries, for example, the presence of previous abdominal surgery, TURP and prominent median lobe of prostate had about one third of PSM with similar ratio to the whole. Three hundreds and ten patients (73.8%) received bilateral NS and 84 patients (20%) performed unilateral NS during RARP. PSM rate was similar about 29% and 29.8% in bilateral and unilateral NS, respectively (p=.366 and p=.915). PSM rate didn't rise in selecting NS method after surgery even though patients classified by pT2 and T3 stage (extraprostatic extension) in final pathological reports. Patients who underwent NS laterally (right side, left side or both) during RARP had no correlation in growing PSM discovered by the location in RP specimens.

Conclusions: Preoperative PSA level and GS in biopsy are two main predictors for PSM after RARP. Intraoperative bleeding will also affect pathological margin status postoperatively. Whether selecting NS or not does not increase the possibility of PSM in RP specimens. It still needs more clinical data to support to choose NS during RARP in high risk prostate cancer patients.