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INTRODUCTION & OBJECTIVES: The SIB margin score, based on a visual analysis of the tumor resection bed (TRB) (Figure 1A,B), was recently proposed as a new classification model for standardized reporting of resection techniques (RT) during NSS.

The aim of the study is to evaluate the correlation between visual definitions of each RT and histopathological analysis of the score-specific areas (SSAs) within the TRB.

MATERIAL & METHODS: Data were prospectively collected from a cohort of patients undergoing NSS at a single Institution. The TRB was visually analyzed by the surgeon. The SIB score was assigned and the SSAs were outlined on a digital picture as anatomic landmarks. Then, the specimen was sent to histopathological analysis. Two dedicated uro-pathologists inked the landmark areas and measured, in a completely blinded fashion, the thickness of healthy renal margin (HRM) with a specific lens (Figure 1C,D). The Mann-Whitney U-test was used to assess the correlation between visual definitions of each RT and corresponding thickness of HRM at pathological analysis.

RESULTS: 28 patients were included in the study. According to the SIB model, in 21 (75%) patients, the SSA in the Surface zone of the TRB was defined as enucleation while in 7 (25%) as enucleoresection or resection. The SSA within the Intermediate and Base zones were defined as enucleation in 20 (71,5%) and 17 (60,8%) patients, enucleoresection in 7 (25%) and 6 (21,4%) and resection in 1 (3,5%) and 5 (17,8%), respectively. The overall RT was classified as pure enucleation in 18 (64,3%) patients, hybrid enucleation in 5 (17,8%), pure enucleoresection in 3 (10,7%), hybrid enucleoresection and resection in 1 patient (3,6%) each.

At histopathological analysis, the median thickness of HRM was significantly different in zones defined as enucleation (0,20 mm, IQR 0,12-0,39), enucleoresection (0,90 mm, IQR 0,65-1,02) and resection (3,6 mm, IQR 2,3-5,0) ($p < 0,0001$).

CONCLUSIONS: Our study showed a highly significant correlation between visual definitions of RTs according to the SIB model and histologic thickness of HRM in the SSAs of the TRB. Therefore, the SIB score is an accurate and reproducible tool that could significantly raise the quality of reported NSS data, making comparisons of surgical series more meaningful.

