Smart Communications (SC80)
Nightmares in urologic reconstructive surgery: The minimally invasive treatment

Smart Communications	Title
SC80	"Live surgery" & Complications: Evaluation of safety of a popular training tool

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Aim of the study: Live surgery (LS) performed by expert surgeons became a popular tool for surgical education as it gives attendants the opportunity to follow the real time decision-making process during surgeries. However, concerns about its safety have been raised because of the many added features that can influence the success of surgery (foreign environment, psychological stress, etc). Aim of this study was to evaluate the safety of "live" minimally invasive surgical procedures (LS-MISP), performed at our Institution during different live surgery congresses.

Materials and methods: We included in the study all patients who underwent laparoscopic or robot-assited surgical procedures performed by expert surgeons during the Videourology meeting of 2011 and the seven editions of Technourology meeting (2013–2019). Demographics, perioperative, pathological data, intraoperative and postoperative complications (according to Clavien Dindo classification), were collected. Postoperative complications were further classified according to the type of intervention and the relation to the surgical procedure. The surgery related intra and postoperative complications (SRC) were also stratified according to the composition of the surgical team, considering if it was composed by the surgeon and his personal assistant or not.

Results: 111 patients were included in the study, mean age was 58 (+13,5) years. 35 partial nephrectomies, 28 radical prostatectomies, 17 reconstructive surgeries, 12 radical nephrectomies, 9 adrenalectomies, 4 adenomectomies and 6 radical cystectomies were performed. 66 cases (59.5%) were performed robotically and 45 (41.5%) laparoscopically. Two (1.8%) intraoperative complications were recorded; two surgical procedures required a switch of surgeon. 21 (18.9%) postoperative complications were recorded. When stratified on the basis of Clavien grade, 14 grade I, 3 grade II, 5 grade III and 1 grade IV complications were recorded thus only 6 (5.4%) experienced major (Clavien > 2) complication. Considering the relation of the intra and postoperative complications with the surgical procedure, only 18 (16.2%) were surgery-related (SRC). Radical cystectomy resulted to be the intervention with higher risk of complication: overall 4/6 (66%), major 1/6 (16%), surgery related 3/6 (50%). Focusing on the surgical team, 73 procedures were performed by the surgeon and his personal assistant, whilst 38 with an unusual assistant. 8/73 (10.9%) and 10/38 (26.3%) SRC occurred in the first and the second group respectively ($p = 0.037$). Considering only intraoperative and major postoperative SRC (Clavien > 2) no significant difference between the groups of surgeons with a personal or unusual assistant was recorded (2/73–2.7% vs 4/38–15.7%, $p = 0.08$).

Discussion: Our study showed a good safety profile for LS-MISP considering both intraoperative and postoperative complications. Moreover, when procedures are performed by a consolidated surgical team, the complication rate is minimized despite the potential stress due to LS.