PE62

The effect of surgical experience on perioperative and oncological outcomes after robot-assisted radical cystectomy with intracorporeal urinary diversion: Evidence from a high-volume center

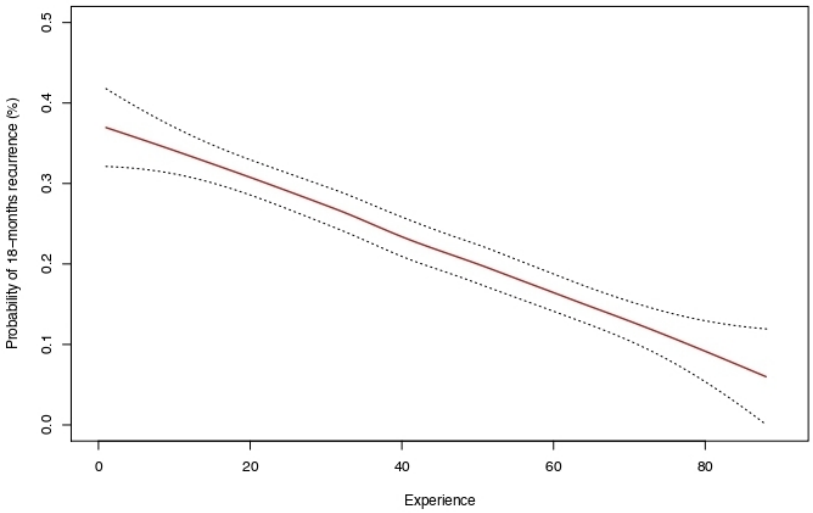
EUR Urol Suppl 2019;18(6):e2637

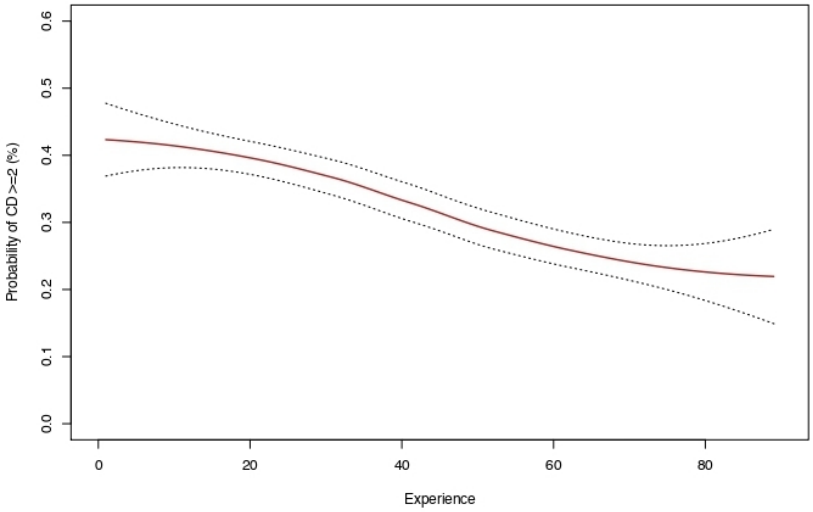
Dell'Oglio P., Mazzone E., Lambert E., Vollemaere J., Goossens M., Larcher A., Van Der Jeugt J., De Vos G., Poelaert F., Uvin P., Collins J., De Naeyer G., Schatteman P., D'hondt F., Mottrie A.

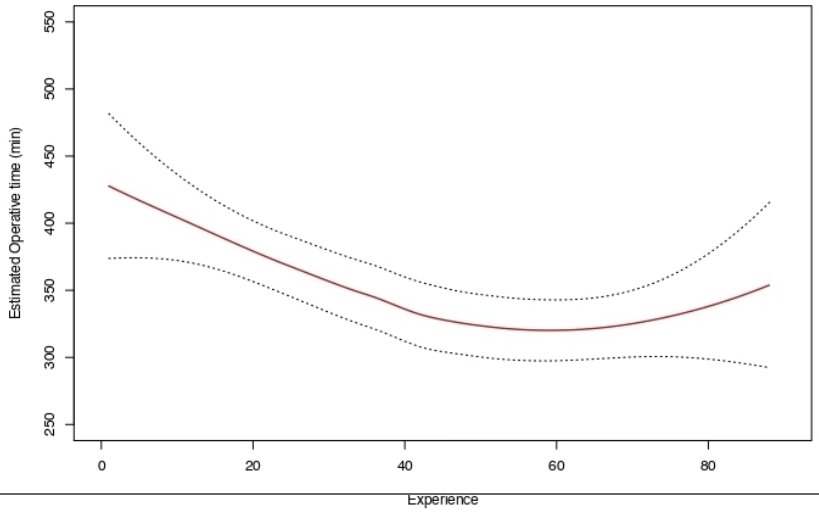
ORSI Academy, Dept. of Urology, Melle, Belgium

Introduction & Objectives: Evidence on the learning curve for robot-assisted radical cystectomy (RARC) with intracorporeal urinary diversion (ICUD) is limited and based on historical, small sample size data that did not account for inter-surgeon variability and did not assess the potential implication of the learning process on oncological outcomes. Based on this premise, we aimed to assess the effect of surgical experience (SE) on perioperative and intermediate-term oncological outcomes in a large contemporary cohort of RARC patients after accounting for the impact of inter-surgeon variability.

Materials & Methods: The study cohort included 164 patients treated with RARC and ICUD between 2004 and 2017 at a single European tertiary care referral centre by two surgeons. Demographic and clinicopathologic data were collected prospectively. For each patient, SE was defined as the total number of RARCs performed by each surgeon before the patient's operation. The relationship between surgical experience and operative time (OT), lymph nodes yield (LNY), positive surgical margins (PSMs), Clavien-Dindo grade ≥2 postoperative complication (CD ≥2) and oncological outcomes (18-month recurrence rate) was evaluated in multivariable linear and logistic regression models, clustering at single surgeon level.


Probability of 18-months recurrence (%)
0.0
0.1
0.2
0.3
0.4
0.5
0
20
40
60
80
Experience


Probability of CD >=2 (%)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0
20
40
60
80
Experience


Estimated Operative time (min)
250
300
350
400
450
500
550
0
20
40
60
80
Experience

Results: After adjusting for case mix, SE was associated with shorter OT (p=0.003), lower probability of postoperative CD ≥2 rates (p=0.01) and lower 18-months recurrence rate (p=0.02). Conversely, SE did not predict lower PSMs rates (p=0.3) and higher LNY (p=0.4). The relationship between SE and OT resulted non-linear, with a plateau observed after 50 cases. Conversely, the relationship between SE and CD ≥2 and 18-months recurrence resulted linear without reaching a plateau after 88 procedures.

Conclusions: Surgical experience affects perioperative and oncological outcomes after RARC with ICUD in a linear fashion and its beneficial effect does not reach a plateau. Conversely, after 50 cases no further improvement was observed for OT.