INTRODUCTION

The ligation of the dorsal vascular complex (DVC) during robot-assisted radical prostatectomy (RARP) can be done either before (preventive ligation, PL) or after (delayed ligation, DL) its transection. We evaluated in a prospective randomized setting whether a DL of the DVC impacted on perioperative, functional, and oncological outcomes as compared to PL during RARP.

MATERIALS AND METHODS

RARP was performed through a transperitoneal approach with either PL (1-0 Monocryl® CT-1, before bladder neck dissection) or DL (3-0 Monocryl® UR-6, once the prostatectomy completed).

Primary endpoint was estimated blood loss (EBL); considering significant a difference ≥30 ml, a sample size of 226 patients were calculated (two-sided α of 0.05 and 80% power). Secondary endpoints were: transfusion rate, positive surgical margins (PSMs), apical PSMs and 1-month PSA and continence (0-1 security pad/day). Differences were compared using Pearson chi-square test or Mann-Whitney test as appropriate (p<0.05 was considered statistically significant).

RESULTS

Overall, 243 patients were randomized from August 2016 to August 2017 (136 patients with PL and 107 with DL). A shift from DL to PL was observed in 26 patients (24%) and from PL to DL in 8 (6%). These patients were excluded from final analysis. The two groups had comparable baseline characteristics.

EBL was higher in DL group (mean 91±120 SD vs 107±134 SD in PL and DL respectively) but not significant (p=0.251). Two patients (1.6%) in PL and 1 (1.3%) in DL group required transfusion (p=0.854).

PSM rate was 19.4% and 21.1% in PL and DL, respectively (p=0.712); among patients with PSM, apical involvement was significantly higher in PL group (57.8% vs 20%, p=0.027). At 1-3-6 months, median PSA values and continence rate were comparable between groups.

CONCLUSIONS

A DL of the DVC is not detrimental on perioperative outcomes and it could play a protective role in managing the prostate apex. These findings could allow the surgeon to opt for the best method tailored on patient needs and disease characteristics.