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EXTENDED VTE PROPHYLAXIS IN MORBIDLY OBESE PATIENTS WHO UNDERWENT ROBOTIC HYSTERECTOMY FOR ENDOMETRIAL CANCER

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Introduction

Recent studies have shown the incidence of venous thromboembolism (VTE) in women undergoing minimally invasive surgery (MIS) for gynecologic cancer to be very low, as low as one third the risk of those undergoing open surgery (laparotomy). (1) Though extended duration VTE prophylaxis guidelines have been established for patients undergoing laparotomy for gynecologic malignancy, the guidelines are unclear for those undergoing MIS. (3) Prior studies have evaluated prophylaxis in patients undergoing MIS, however none have specifically addressed the patient group with BMI >35, who are known to be at higher risk for VTE. Since high BMI increases the risk for VTE, and the majority of VTE events for patients undergoing hysterectomy for endometrial cancer occur following discharge, it is important to determine if extended duration prophylaxis could benefit our obese/morbidly-obese patients.

Aim: To examine the effect of post-operative extended duration thromboprophylaxis on the rate of VTE in obese patients (BMI >35) who underwent robotic hysterectomy for endometrial cancer.

Materials and Methods

A retrospective chart review of robotic procedures for endometrial cancer performed at the University of Florida from January 2013 to April 2018 was conducted. The primary outcome was a VTE event (e.g. DVT or PE) within the post-operative period.

Patient Characteristics

Patient Characteristics	Perioperative Prophylaxis Only n = 56	Perioperative and Extended Duration Prophylaxis n = 43
Age Mean +/- std dev	65.09 +/- 7.6	60.84 +/- 9.42
BMI * p= .014 Mean +/- std dev	41.66 +/- 5.6	45.08 +/- 7.45
Hypertension	28%	71%
Diabetes	66%	33%
Smoking	76%	23%

* Statistical analysis showed no significant difference between groups, except in BMI with statistically higher BMI in the extended prophylaxis group p = .014

Overall Surgical Results		Operative time in minutes	Estimated Blood Loss in milliliters	Hospital Stay in days
N = 99	Mean	196.2 minutes	81.8 mls	1.25 days
	Median	179.0 minutes	70.0 mls	1.00 days
	Standard Deviation	+/- 76.6	+/- 100.5	+/- .76

Results

99 robotic cases for endometrial cancer were included in the final analysis based on BMI >35 (median = 42.3 Kg/m2). 100% received pre-operative thromboprophylaxis with heparin or enoxaparin, and 100% used pneumatic compression devices. 43 patients (43%) received extended duration prophylaxis, (range 28-30 days), and 56 did not. Three patients in the group that did not receive extended prophylaxis developed a VTE in the 30-day post-operative period (5.4%), versus 0% in the group that did receive extended prophylaxis. Even though the VTE events all occurred in the group which did not receive extended prophylaxis, the difference was not statistically significant p=.26.

VTE Prophylaxis Type	VTE Events	Percentage of VTE for group
Perioperative only (n=56)	3	5.4%
Perioperative + extended duration enoxaparin (n=43)	0	0%
		(p=.26)

Discussion

Although obese patients (BMI >35) with gynecologic malignancy are a particularly high-risk group for VTE development, especially compared to their non-obese counterparts, the preliminary results of this study suggest that extended duration thromboprophylaxis post-operatively may not significantly influence the rate of VTE development in this population. It is important to note that the VTE following robotic or minimally invasive surgery for gynecologic cancer is rare, even in the morbidly obese population. Therefore, perioperative prophylaxis may be sufficient to protect against VTE.

Conclusion

In obese patients undergoing robotic surgery for endometrial cancer, extended duration thromboprophylaxis may not be necessary to decrease VTE. Given the very low incidence of VTE overall after robotic (MIS) surgery, large studies would be needed to define prophylaxis guidelines in morbidly obese women.

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