

INTRAMYOMETRIUM AUTOLOGOUS PLATELET-RICH PLASMA INJECTION AFTER PRIMARY CAESAREAN SECTION FOR PROMOTION OF CAESAREAN SCAR HEALING: A DOUBLE BLIND RCT



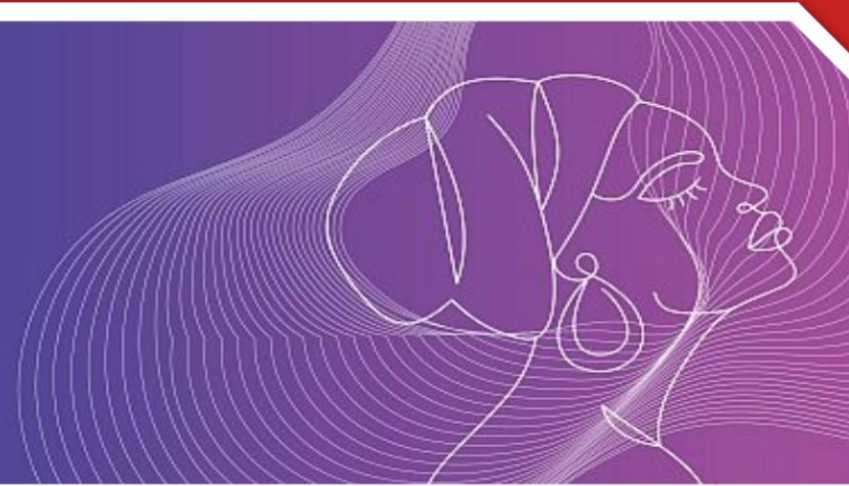
E.Elkoumy¹, T.Tamara², R.Ali², M.Elhodiby¹

¹Department of Obstetrics & Gynecology, Faculty of Medicine – Must University, 6th October, Egypt.

² Department of Obstetrics & Gynecology, Faculty of Medicine –Ain shams University, Cairo, Egypt

**RCOG WORLD
CONGRESS 2025**

23-25 June 2025 | ExCeL London



INTRODUCTION/BACKGROUND

Caesarean section (CS) scar defects are linked to risks of uterine rupture, abnormal placental implantation, uterine scar dehiscence in subsequent pregnancies, and scar ectopic pregnancy. These defects may lead to abnormal uterine bleeding. Effective uterine wound healing is crucial for healthy future pregnancies and enabling vaginal birth after caesarean section (VBAC), thus reducing repeated CS rates.

OBJECTIVES/AIMS

To assess the efficacy of intramyometrial injection of platelet-rich plasma (PRP) on uterine wound healing in women undergoing primary CS.

METHODOLOGY:

This study evaluated the efficacy of intramyometrial injection of autologous PRP on uterine wound healing after primary CS. It included 134 participants aged 18-35 years who underwent their first CS at MUST university and Ain Shams Maternity Hospital. Participants were randomized into two groups: Group A (67 participants) received an intramyometrial injection of PRP after uterine incision closure, and Group B (67 participants) received a placebo injection of normal saline.

CONCLUSIONS

The study demonstrated that PRP has positive effects on myometrial wound healing and reduces CS scar defect rates in patients undergoing their first elective caesarean section.

Results	Study group		Placebo group	Independent t-test	
				P-value	
Measurements by saline sonography					
Anterior myometrial thickness (mm)	Mean ± SD	15.1±2.4	14.0±2.8	0.019*	
	Range	10.0–21.0	7.0–22.0		
Thickness of residual myometrium (mm)	Mean ± SD	11.4±2.0	9.0±2.3	<0.001*	
	Range	9.0–16.0	6.0–16.0		
Depth of scar niche (mm)	Mean ± SD	2.9±1.6	4.4±1.5	<0.001*	
	Range	1.0–6.0	2.0–6.0		
Width of scar niche (mm)	Mean ± SD	2.6±1.3	3.9±1.3	<0.001*	
	Range	1.0–5.0	2.0–6.0		
Healing ratio (%)	Mean ± SD	88.6±12.0	73.5±14.9	<0.001*	
	Range	62.5–100.0	50.0–100.0		
Intrauterine adhesions		0 (0%)	0 (0%)	NA	

According to intention to treat analysis with assumption of women lost to follow up in both group had developed CSD, 59.7% of women in the study group developed CSD versus 83.5% in the control group. With 28.5% reduction in CSD rate in the study group compared to controls, moreover; four women need to be treated with intramyometrial PRP injection to avoid CSD development in one woman.

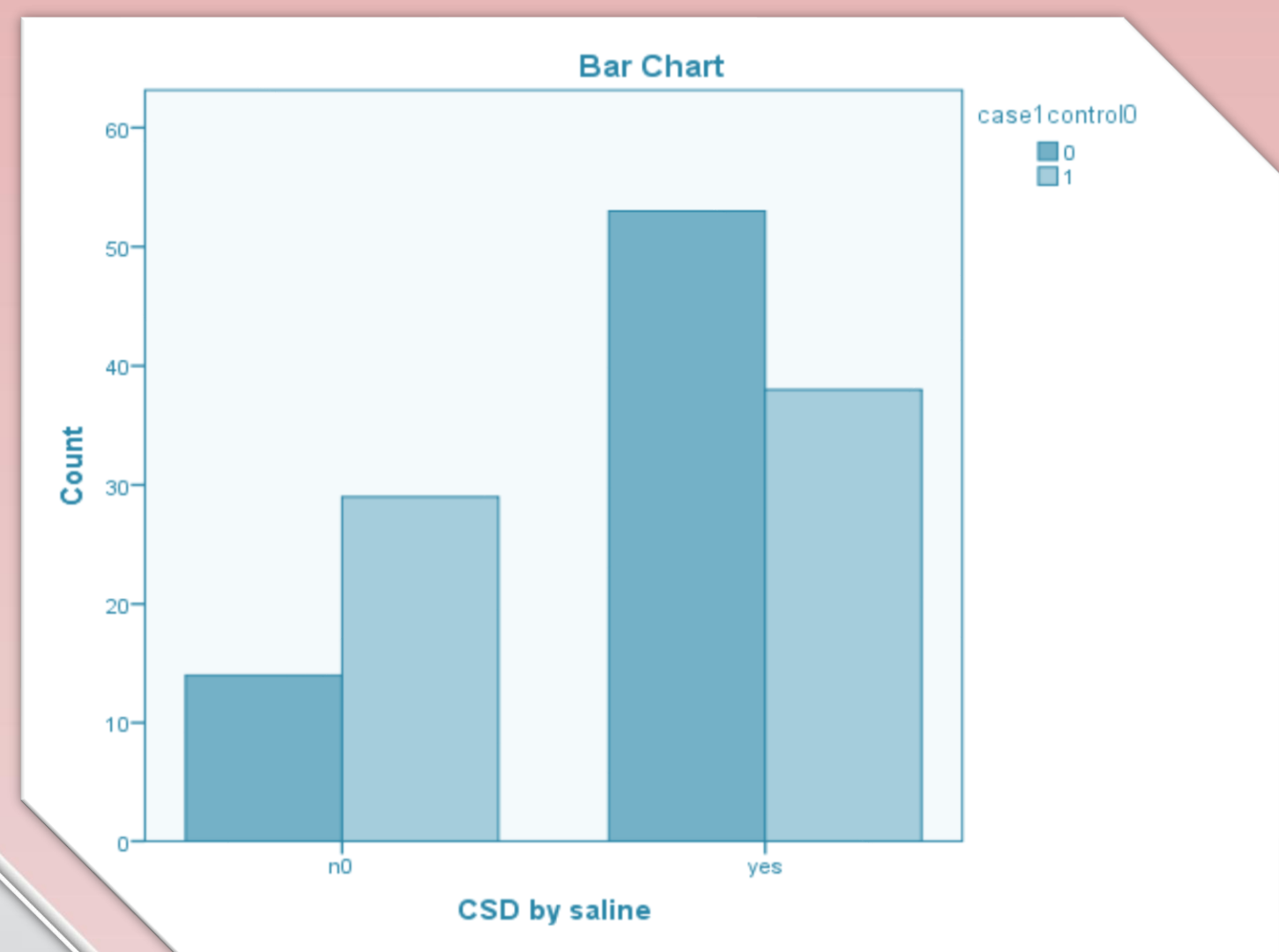


Figure (1): Incidence of niche among the studied groups By SIS

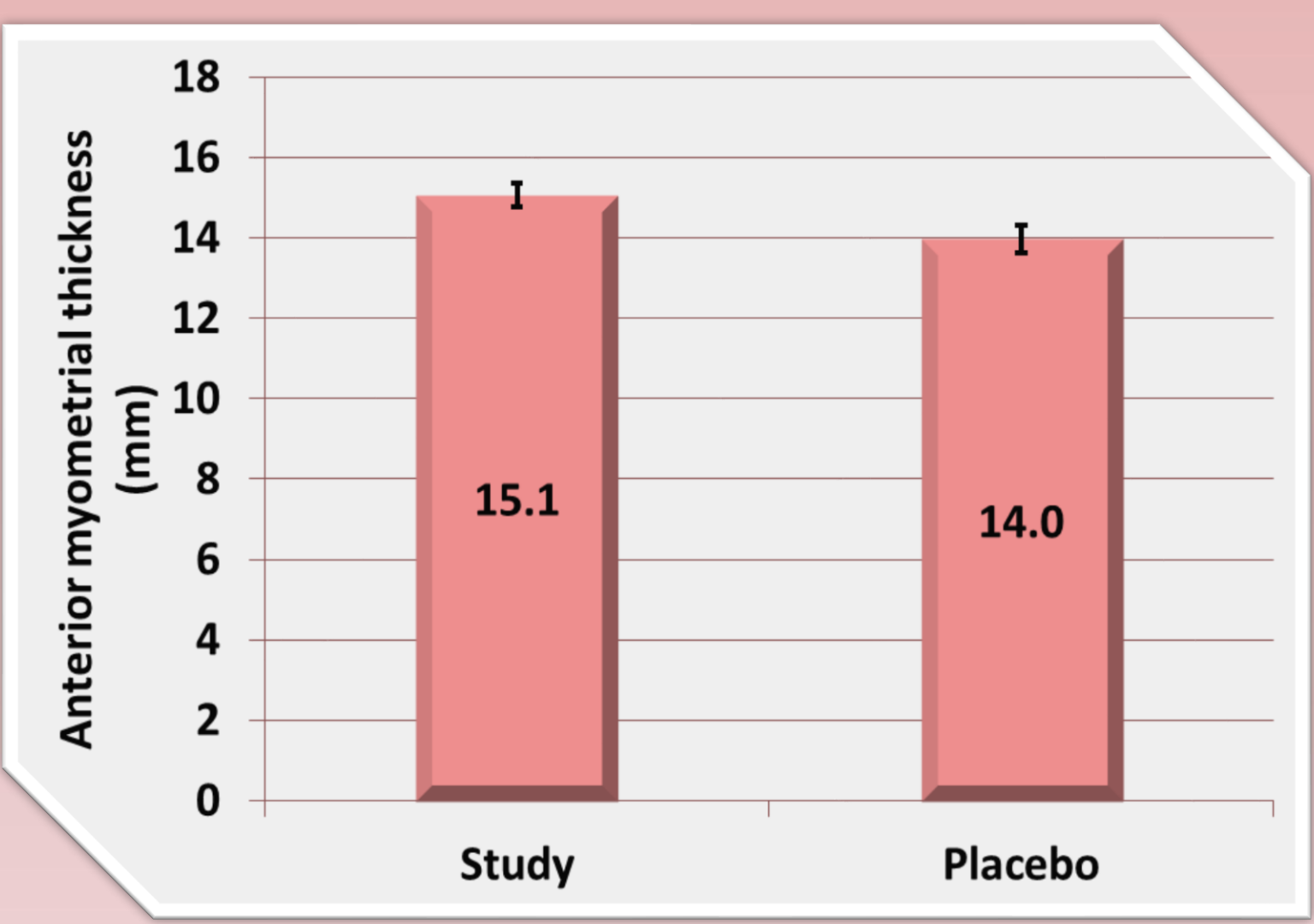


Figure (2): Anterior myometrial thickness among the studied groups

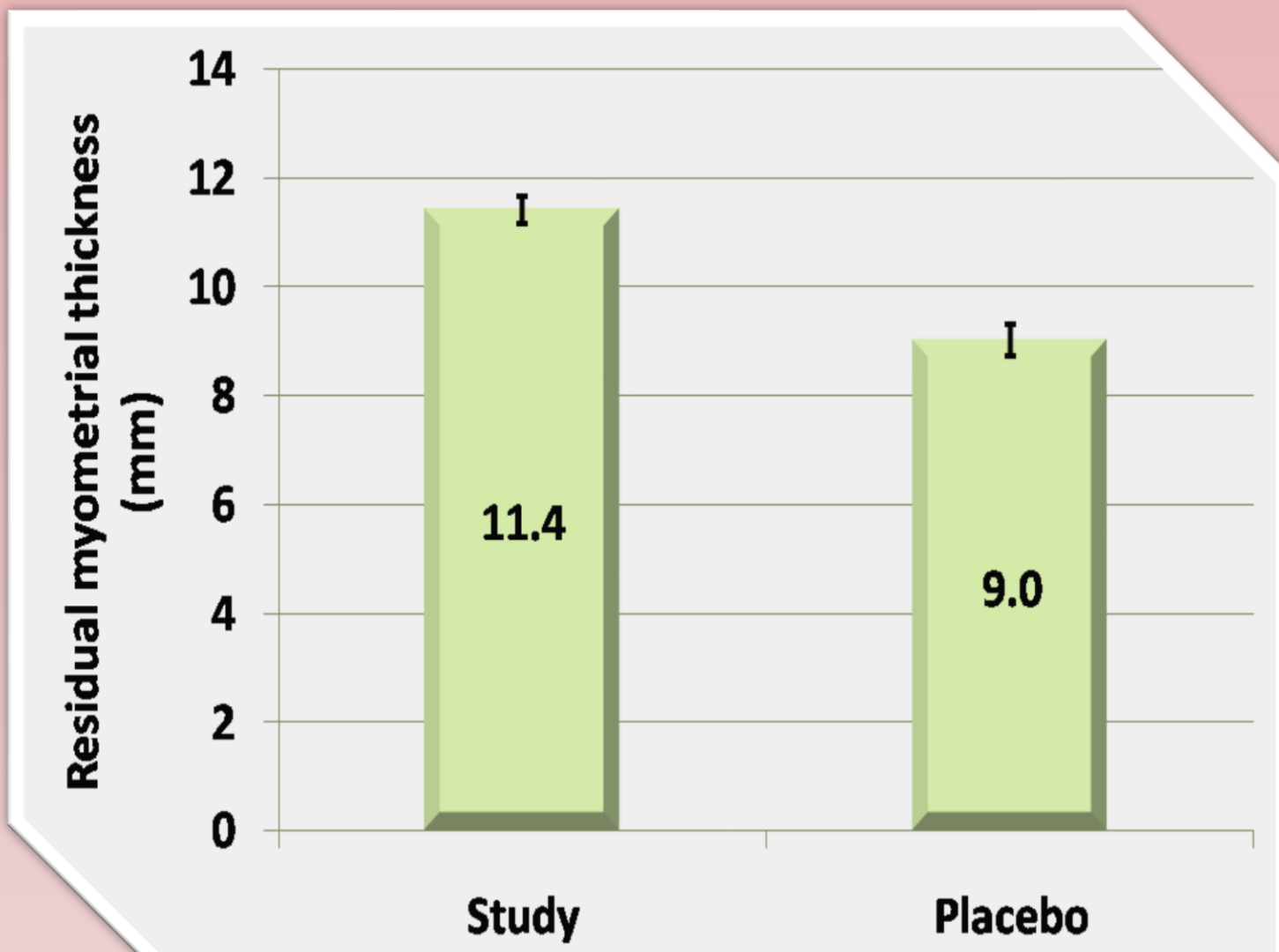


Figure (3): Residual myometrial thickness among the studied groups.

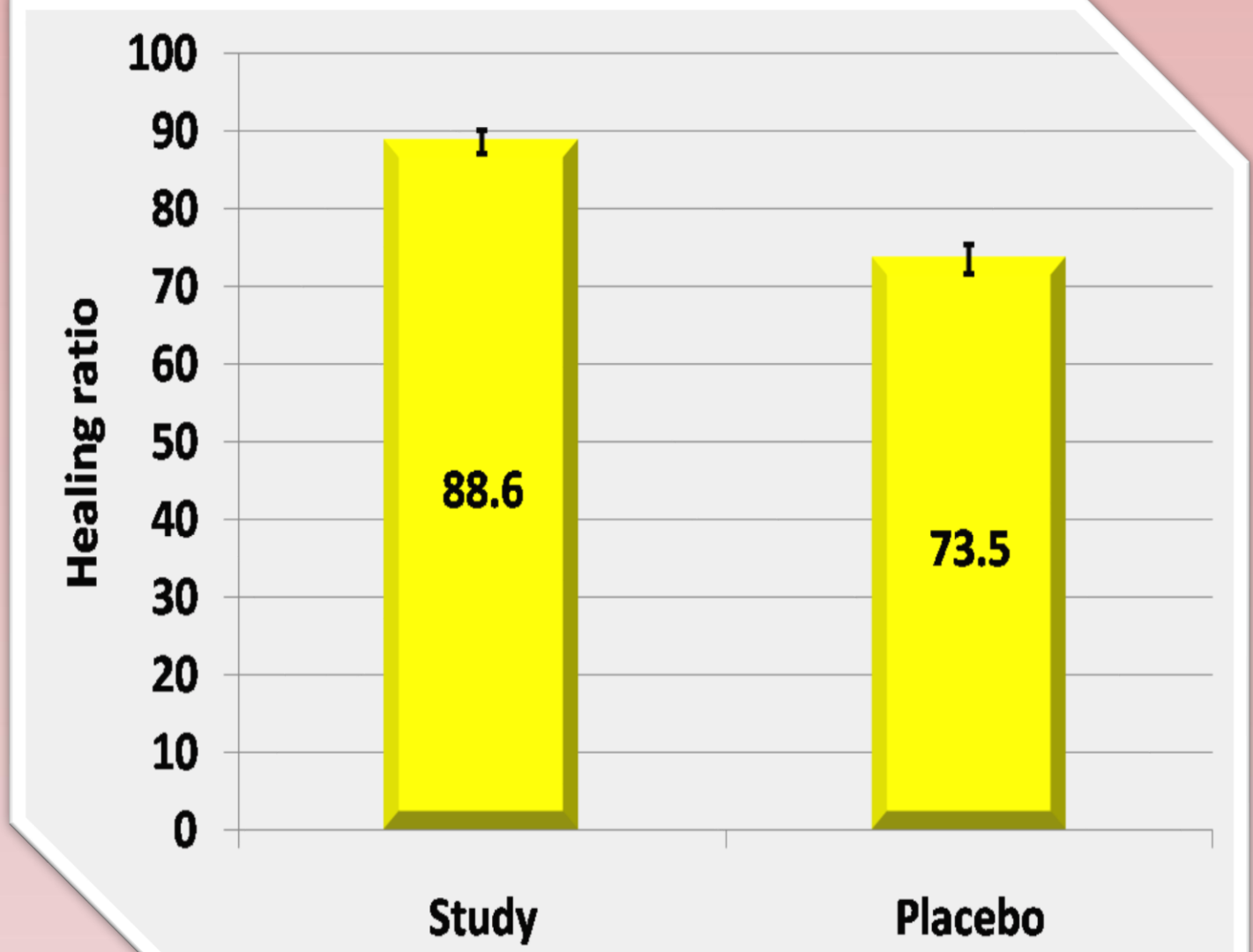


Figure (4): Healing ratio among the studied groups

REFERENCES

Uppal T, Lanzarone V and Mongelli M. (2011): Sonographically detected caesarean section scar defects and menstrual irregularity. J Obstet Gynaecol; 31(5):413-416.

van der Voet LF, Bij de Vaate AM, Veersema S, Broilmann HA, Huirne JA. (2014): Long-term complications of caesarean section. The niche in the scar: a prospective cohort study on niche prevalence and its relation to abnormal uterine bleeding. BJOG;121:236–244.

CONTACT INFORMATION

Eslam Elkoumy (MSc , MRCOG) Assistant Lecturer.
Department of Obstetrics and Gynecology, Faculty of
Medicine ,MUST university , Egypt.

Islam.Elkomy@skuh.must.edu e_elkoumy@yahoo.com