

Asian Journal of Health Research

Journal Homepage: https://a-jhr.com Published by Ikatan Dokter Indonesia Wilayah Jawa Timur



# Systematic Review



# The Relationship Between Laparoscopic Cystectomy and Ovarian Reserve: A Systematic Review and Meta-Analysis

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# ARTICLE HISTORY

Received: 9 January 2024 Revised: 13 February 2024 Accepted: 12 March 2024

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#### **KEYWORDS**

Laparoscopic Cystectomy; Ovarian Reserve Marker



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# ABSTRACT

**Introduction:** Laparoscopic cystectomy is the first-line recommended treatment for different ovarian cysts. Several mechanisms have been proposed to explain the negative impact of laparoscopic cystectomy on ovarian reserves, including the loss of normal ovarian tissue during cyst stripping, heat damage from electrosurgery, inflammation, and edema. The purpose of this systematic review is to synthesize and quantify the currently available research on the effect of laparoscopic cystectomy on ovarian reserve using multiple indicators.

**Material and Methods:** The PubMed database was searched using the keywords "laparoscopic cystectomy" and "ovarian reserve," which yielded 23 papers for the final review. The Cochrane Risk of Bias tool was used to assess potential bias.

**Results:** AMH, FSH, reserve ovarian volume, and PSV all showed significant changes at different time points after surgery, although LH and estradiol did not. AMH is the most frequently utilized and sensitive method for evaluating ovarian reserve at various time periods.

**Conclusion:** Laparoscopic cystectomy reduces ovarian reserve across various indicators.

Cite this as: Primarintan TN (2024) The Relationship Between Laparoscopic Cystectomy and Ovarian Reserve: A Systematic Review and Meta-Analysis. *Asian J Heal Res.* 3 (1): 69–78. doi: 10.55561/ajhr.v3i1.137

# **INTRODUCTION**

Laparoscopic cystectomy is the first-line therapy for different ovarian cysts [1]. Several mechanisms have been proposed to explain the negative impact of laparoscopic cystectomy on ovarian reserves, including the loss of normal ovarian tissue during cyst stripping, heat damage from electrosurgery, inflammation, and edema [2]. Ovarian reserve, defined as the reproductive potential at a certain time point, is notoriously difficult to measure. Markers used to measure ovarian reserve include anti-Mullerian hormone (AMH), folliclestimulating hormone (FSH), antral follicle count (AFC), ovarian volume, and others [3]. This systematic review seeks to synthesize and quantify the current data on the influence of laparoscopic cystectomy and ovarian reserve through the assessment of several indicators.

# MATERIAL AND METHODS

#### Search Strategy

This study adheres to PRISMA standards [4]. The literature search was done using the PubMed database. The keywords for the search were "laparoscopic cystectomy" and "ovarian reserve". The reviewer evaluated the results of the search to assess the study's eligibility.

#### Inclusion Criteria

- 1. Studies published in English.
- 2. Studies conducted using prospective designs (singlearm and cohort)
- 3. Studies comparing ovarian reserve markers before and after laparoscopic cystectomy, with mean ± SD values.

#### **Exclusion** Criteria

- 1. Studies not published in English.
- 2. Studies comparing various laparoscopic cystectomy procedures, sutures, and treatments.
- Studies without detailed data statements in mean ± SD.

#### Selection Process

The PubMed database yielded 92 publications, 23 of which were included in the final review. Studies were omitted for the reasons described in Fig.1.

#### **Risk of Bias Assessment**

The Cochrane Risk of Bias tool was used to identify potential biases [5].

#### Statistical Analysis

Statistical analysis was performed using the Review Manager 5 program.

# RESULTS

This analysis includes 23 prospective studies that assessed the influence of laparoscopic cystectomy on several ovarian reserve indicators [6–28]. The Cochrane Risk of Bias tool revealed a significant risk of bias in random sequence generation, allocation concealment, participant and personnel blinding, and blinding of outcome assessment due to the nature of the studies included, which were single-arm and cohorts. Incomplete outcome data, selective reporting, and other forms of bias were not shown to pose a major risk.

Several studies studied the quantity of AMH at various time periods following the laparoscopic cystectomy technique. AMH was assessed at 1 week, 1 month, 6 weeks, 2 months, 3 months, 6 months, 9 months, and 12 months after surgery. The quantity of AMH tested at various time periods never returned to the preoperative level. A statistically significant decrease of AMH was found during 1 week (MD: -1.85, 95% CI -2.06, -1.33, p < 0.00001), 1 month (MD: -0.71, 95% CI -0.74, -0.69, p < 0.00001), 2 months (MD: -0.63, 95% CI -0.74, -0.69, p < 0.00001), 6 months (MD: -1.05, 95% CI -0.67, -0.60, p < 0.00001), 9 months (MD: -1.72, 95% CI -1.34, -0.75, p < 0.00001), 9 months (MD: -1.72, 95% CI -1.87, -1.58, p < 0.00001), and 12 months (MD: -1.66, 95% CI -2.34, -0.98, p < 0.00001) postoperatively.

FSH levels were also studied at several time points: 1 week, 1 month, 6 weeks, 2 months, 3 months, 6 months, 9 months, and 12 months. A statistically significant change in FSH was found during 1 week (MD: 3.91, 95% CI 2.72, 5.10, p < 0.00001), 6 weeks (MD: 2.33, 95% CI 0.74, 3.92, p: 0.004), 3 months (MD:

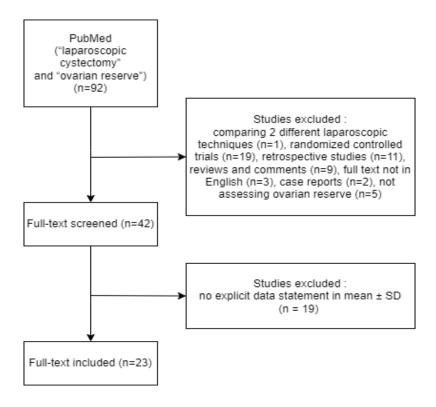


Fig. 1. Article screening process

First Author, Year	Sample Characteristics	n	Inclusion Criteria	<b>Exclusion Criteria</b>		
Alborzi et al. (2014) [6]	Endometrioma	19 3	18-43 years old, regular menses, unilateral/bilateral/single/multipl e endometrioma with pelvic pain or infertility	Previous adnexal surgery, hormone therapy, OC use for past 3 cycles, endocrine disorders, suspected/proven ovarian malignancy, previous ovarian failure/ premature menopause		
Bhat et al. (2014) [7]	Endometrioma	73	Subfertile women undergoing laparoscopic cystectomy for the first time	Prior pelvic surgery		
Biacchiardi et al. (2011) [8]	Endometrioma	43	Symptomatic endometrioma	PCOS, basal FSH > 15 IU/l, any hormonal treatment for $\geq$ 6 months, BMI > 30 kg/m2, concommitant ovarian pathology		
Celik et 1. (2012) [9]	Endometrioma	65	Endometrioma diameter≥3 cm, no prior ovarian surgery, 18-45 years old, regular menses	Suspected malignant ovarian disease, OC use/hormone therapy during past 3 months, postmenopausal FSH levels, endocrine disorders		
Chang et al. (2010) [10]	Endometrioma Mature cystic teratoma Mucinous	13 6 1	Previous diagnostic procedures of benign ovarian tumors, 18-45 years old, regular menses	Postmenopausal status, PCOS, previous adnexal surgery, suspected malignant ovarian disease, OC use/hormone therapy during past 3		
	cystadenoma			months, endocrine disorders		
Chen et al. (2014) [11]	Endometrioma Tubal factor infertility	40 36	Previous diagnostic procedures of benign ovarian tumors, histologic confirmation of	Postmenopausal status, previous adnexal surgery, suspected malignant ovarian disease, hormone		
	Other benign ovarian cyst	23	endometriomas/other benign ovarian cyst, 20-40 years old, regular menses	therapy during past 3 months, endocrine disorders		
Ding et al. (2015) [12]			20-43 years old, regular menses, ovarian cysts > 3 cm	Previous adnexal surgery, O use/hormone therapy for past		
	Unilateral endometrioma Unilateral other	29 20		cycles, endocrine disorders, suspected/proven ovarian malignancy, premature ovarian		
Dubinskaya et	benign ovarian cyst Unilateral	13	25-35 years old, unilateral	failure/premature menopause Any pelvic pathology, male		
al. (2019) [13]	endometrioma	13	25-35 years old, unilateral endometrioma diameter : 3-5 cm, BMI < 30 km/m2, primary/secondary infertility >1 year, tubal factor of infertility screened by HSG	Any pelvic pathology, male infertility factor, general disease, on any medication that could reduce pelvic blood flow		
Ercan et al. (2011) [14]	Unilateral endometrioma	36	20-39 years old, unilateral endometrioma diameter $\ge 4$ cm, regular menses	Suspected malignant ovarian disease, hormone therapy during past 6 months, previous adnexal surgery, BMI > 30 kg/m2, positive beta-HCG, premature ovarian failure		
Georgievska et al. (2014) [15]	Unilateral endometrioma	31	20-40 years old, unilateral endometrioma diagnosed by USG with mean diameter $\geq 4$ cm	Previous adnexal surgery, OC use/hormone therapy for past 3 cycles, endocrine disorders, PCOS		
Georgievska et al. (2015) [16]	Endometrioma	30	20-42 years old, endometrioma diagnosed by USG	PCOS, BMI > 35 kg/m2, endocrine disorders, previous adnexal surgery		
Karadag et al.	Endometrioma	36	18-35 years old,	Previous adnexal surgery, irregular		
(2020) [17]	Dermoid cyst	32	endometrioma/dermoid cyst diagnosed by $USG \ge 4 \text{ cm}$	menses, >1 unilateral cyst/bilateral cysts, PCOS, endocrine disorders, OC use/hormone therapy during past 6 months		
Kostrzewa et al. (2019) [18]	Unilateral endometrioma	35	18-40 years old, unilateral ovarian cyst,	Bilateral ovarian cysts, suspected malignant ovarian disease		
<pre></pre>	Simple cyst	10	· · · · · ·			
	Mature teratoma	16				
Lee et al. $(2011)$	Other	9	21.46 years old andomatriama	Bilateral overian lesione		
Lee et al. (2011) [19]	Endometrioma	13	21-46 years old, endometrioma diagnosed by USG, regular menses	Bilateral ovarian lesions, menopausal symptoms, previous adnexal surgery, endocrine disorders, medications that could affect test results in the past 6 months		

# Table 1. Study Characteristics

First Author, Year	Sample Characteristics	n	Inclusion Criteria	<b>Exclusion Criteria</b>
Mansouri et al.	Endometrioma	41	18-45 years old, BMI: 18.5-29.9	Hormone therapy in the last 3
(2022) [20]	Serous cystadenoma	9	kg/m2, regular menses	months and during the study period,
(2022) [20]	Dermoid cyst	29		previous adnexal surgery,
	Other	34	-	chemotherapy, or pelvic
	Other	54		radiotherapy, PCOS, endocrine
				disorders, premature ovarian
				failure/premature menopause,
				suspected/proven genital/
				extragenital malignancy.
Kashi et al.	Unilateral	45	<40 years old, endometrioma	History of unilateral oophorectomy,
(2017) [21]	endometrioma	25	diameter $\geq$ 3 cm/regardless of size if infertile/ dvsmenorrhea/	OC use/GnRH agonists/danazol
	Bilateral endometrioma	25	if infertile/ dysmenorrhea/ dyspareunia/ dyschezia	use, endocrine disorders, PCOS
Ozaki et al.	Endometrioma	143	Symptomatic ovarian	Pregnant, leiomyoma involving the
(2016) [22]	Endometrioma	145	endometrioma diameter > 4 cm by	cavity/intramural leiomyoma
(2010) [22]			USG, <45 years old, regular	diameter >3 cm, bleeding disorders,
			menses,	endocrine disorders, previous
			)	abdominal surgery, malignant
				ovarian disease, hormone therapy in
				the last 3 months
Rasoul et al.	Endometrioma	332	19-42 years old, chronic pelvic pain,	Other ovarian cysts, PCOS,
(2021) [23]			dysmenorrhea, dyspareunia,	comorbidities that could affect
			endometrioma diagnosed by USG,	fertility
Salihoglu et al.	Endometrioma	34	normal AMH and FSH 18-40 years old, regular menses,	Previous pelvic/adnexal surgery,
(2016) [24]	Other	33	largest endometrioma diameter > 4	hormone therapy in the last 3
(2010) [24]	Other	55	cm with histopathological	months, metabolic/psychiatric
			confirmation	disease, concomitant non-
				endometriotic cyst with
				endometrioma, suspicion of
				malignancy, radiotherapy/
				chemotherapy
Sarmadi et al.	Teratoma	17	<pre>&lt;40 years old, regular menses,</pre>	Endocrine disease, previous adnexal
(2013) [25]	Mucinous	7	benign cysts	surgery
	cystadenoma	11	-	
	Simple cyst Simple serous	11 10	-	
Shao et al. (2016)	Endometrioma	80	21-35 years old, endometrioma $\geq 4$	PCOS, previous adnexal surgery,
[26]	Endometrionia	80	$21-55$ years old, endometrionia $\geq 4$ cm	ovarian malignancy, hormone
[20]			ciii	therapy in the last 3 months,
				endocrine disorders
Shi et al. (2011)	Endometrioma	33	<45 years old, ovarian cyst	Malignant ovarian tumors
[27]			-	
Sireesha et al.	Endometrioma	29	25-39 years old, benign ovarian	Pregnant, PCOS, active PID,
(2021) [28]	Serous cystadenoma	14	cysts sized 6-15 cm	suspected genital/extragenital
	Mucinous	8	-	malignancy, premature ovarian
	cystadenoma		_	failure, previous adnexal surgery, hormone therapy in the last 3 months
	Cystic teratoma	11		normone merapy in me last 5 months
	Corpus luteal cysts	10	-	

0.99, 95% CI 0.60, 1.37, p < 0.00001), 9 months (MD: 1.40, 95% CI 0.14, 2.66, p: 0.03), and 12 months (MD: - 1.04, 95% CI -1.46, -0.63, p < 0.00001).

LH was tested after one month, six weeks, three months, six months, and nine months after surgery. There was no statistically significant change at any time point, or between time points. Estradiol levels were assessed at six weeks, three months, six months, and nine months after surgery. There was no statistically significant change at any time point, or between time points. AFC was measured one month, six weeks, three months, six months, nine months, and twelve months after surgery. The statistically significant difference was found during 1 month (MD: 0.60, 95% CI 0.25, 0.94, p: 0.0007), 3 months (MD: 0.54, 95% CI 0.33, 0.75, p < 0.00001), and 9 months (MD: 1.80, 95% CI 0.16, 3.44, p: 0.03) postoperatively.

Residual ovarian volume was assessed at one, three, nine, and twelve months after surgery. The statistically significant difference was found d uring 1 month (MD: - 2.12, 95% CI -3.90, -0.34, p: 0.02), 3 months (MD: -1.84, 95% CI -2.31, -1.49, p < 0.00001), and 9 months (MD: - 1.90, 95% CI -2.31, -1.49, p < 0.00001). A statistically significant difference was found between time points (p: 0.01).

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PSV levels were assessed at 2 days, 1 month, and 3 months postoperatively, with statistically significant results at 2 days (MD: -4.80, 95% CI -6.49, -3.11, p < 0.00001) and 3 months (MD: -2.40, 95% CI 3.86, -0.94, p: 0.001). A statistically significant change was seen between time points (p < 0.0001).

## DISCUSSION

The lowest AMH level assessed at various time periods occurred one week after surgery, which might be attributed to the effects of inflammation, ischemia, vascular damage, and edema [6]. The highest points in AMH measurement were achieved six weeks, two months, and three months after surgery. Few studies are exploring AMH measurement throughout the 6-week and 2 month time points, but there is a wealth of data testing AMH during the 3 month time point, which shows a considerable reduction in AMH levels but is significantly higher than 1 week time point. The recovery at three months postoperatively indicates a continuous healing process following the initial trauma encountered during surgery and adnexal reperfusion [6]. AMH levels are decreasing after reaching a peak at 3 months postoperatively, according to measurements taken at 6 months, 9 months, and 12 months. This observation suggests permanent injury to the adnexa [26].

The measurement of FSH at various time periods results in a largely consistent rise postoperatively, with the exception of the 2-month time point. In the Salihoglu et al. research, the group that had bilateral laparoscopic cystectomy showed greater FSH levels at 2 months postoperatively than the unilateral group. This may have an impact on the results in the two months following surgery. In all other time periods, FSH levels rise after surgery before dropping after a year.

The measurement of AFC yields a mixed outcome with significant variation in the data given. The aggregated results of all time points show a rise in AFC relative to preoperative values. The results of LH and estradiol measurements were not explored as extensively as other ovarian reserve indicators, yielding an inconsequential result. The PSV measurement was also not frequently explored across research, with only one study investigating it at various time periods. Overall, the measurement of PSV implies a decline with time.

The assessment of reserve ovarian volume yielded consistent and constant levels from 1 month to 9 months postoperatively, followed by an increase at 12 months. Only one research looked at reserve ovarian volume 12 months after surgery and found a significant increase; further data is needed to corroborate this conclusion. Based on the data gathered from numerous research, we propose using AMH as the primary way of evaluating ovarian reserve due to its sensitivity to changes at various time periods.

### CONCLUSION

Laparoscopic cystectomy reduces ovarian reserve across various indicators. According to the data collected in this study, AMH testing is the most extensively used way of evaluating ovarian reserve, as well as the most sensitive and responsive marker.

# ACKNOWLEDGMENT

We thank all the authors of the articles reviewed in this article.

# **CONFLICT OF INTEREST**

The authors declared no conflict of interest.

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tudy or Subgroup	Postoperative Mean SD Total	Preoperative Mean SD To	tal Weight	IV, Fixed, 95% Cl	Mean Difference IV, Fixed, 95% Cl
.1.1 1 week Iborzi 2014 1 wk BIL E	1.03 1.4 72	3.29 3.28	72 0.1%		
lborzi 2014 1 wk BIL E	1.99 2.08 121		21 0.1%		
ee 2011 1 wk E	2.77 1.56 13	4.69 2.5	13 0.0%		
asoul 2021 1 wk E ireesha 2021 1 wk B	1.4 1.3 332 4.06 1.32 43	3.33 2.72 3 5.47 1.14	32 0.4% 43 0.2%		
ireesha 2021 1 wk E	1.96 0.9 29	3.73 0.79	29 0.2%	-1.77 [-2.21, -1.33]	<u> </u>
ubtotal (95% Cl) leterogeneity: Chi <sup>2</sup> = 4.88, df:	610 = 5 (P = 0.43); F = 0%	t t	ilo 0.9%	-1.85 [-2.06, -1.64]	•
est for overall effect: Z = 17.0					
.1.2 1 month					
hen 2014 1 mo B	1.48 0.86 22	2.2 1.23		-0.72 [-1.35, -0.09]	
hen 2014 1 mo E hen 2014 1 mo TFI	0.69 0.89 40 2.8 1.57 36	1.53 1.37 2.82 1.74	40 0.2% 36 0.1%		
ubinskaya 2019a 1 mo E-I	0.41 0.06 42	1.24 0.08	42 44.7%		-
ubinskaya2019a 1 mo E-II	1.18 0.12 24	1.42 0.09	24 11.4%		_ •
ubinskaya 2019b 1 mo E-I ubinskaya2019b 1 mo E-II	1.41 0.11 16 2.26 0.13 37	2.42 0.31 2.77 0.54	16 1.6% 37 1.3%		
ee 2011 1 mo E	2.77 1.46 13	4.69 2.5	13 0.0%		
ubtotal (95% Cl) leterogeneity: Chi <sup>2</sup> = 319.77,	230 df = 7 (P < 0.00001); F		30 59.3%	-0.71 [-0.74, -0.69]	
est for overall effect: Z = 53.2		- 90%			
.1.3 6 weeks					
elik 2012 6 wk E ubtotal (95% CI)	1.32 1.29 64 64	1.78 1.71	65 0.2% 65 0.2%		
uptotal (95% CI) leterogeneity: Not applicable			03 0.2%	-0.40 [-0.98, 0.06]	
est for overall effect: Z = 1.73					
.1.4 2 months					
alihoglu 2016 2 mo BIL B	7.5 3.8 33	7.1 3.3	33 0.0%		
alihoglu 2016 2 mo BIL E alihoglu 2016 2 mo LINI B	2.2 1.9 34 4.3 3 33	2.6 2.3 5.4 3.7	34 0.0% 33 0.0%		
alihoglu 2016 2 mo UNI B alihoglu 2016 2 mo UNI E	4.3 3 33 2.7 1.4 34	5.4 3.7 3.5 1.6	33 0.0% 34 0.1%		
ubtotal (95% Cl)	134		34 0.2%		◆
leterogeneity: Chi² = 2.12, df est for overall effect: Z = 2.30					
.1.5 3 months					
lborzi 2014 3 mo BIL E	1.24 1.48 72	3.29 3.28	72 0.1%	-2.05 [-2.88, -1.22]	
Iborzi 2014 3 mo UNI E	2.53 2.82 121		21 0.1%		
iacchiardi 2011 3 mo E hang 2010 3 mo	1.4 0.2 43 1.93 0.51 20	3 0.4 2.75 2.28	43 2.3% 20 0.0%		
ubinskaya 2019a 3 mo E-I	0.48 0.12 42	1.24 0.08	42 21.5%	-0.76 [-0.80, -0.72]	-
ubinskaya2019a 3 mo E-II ubinskaya 2019b 3 mo E-I	1.34 0.16 24 2.26 0.12 16	1.42 0.09 2.42 0.31	24 7.6% 16 1.5%		
ubinskaya2019b 3 mo E-II	2.64 0.33 37	2.77 0.54	37 1.0%		
rcan 2011 3 mo UNI E	1.95 0.62 36	2.03 0.41	36 0.7%		-+
aradag 2020 3 mo D aradag 2020 3 mo E	2.17 0.56 32 1.47 0.55 36	2.6 0.57 2.04 0.68	32 0.5% 36 0.5%		
iostrzewa 2019 3 mo B	4.75 3.91 23	5.58 4.44	34 0.0%		
ostrzewa 2019 3 mo E	2.31 2.24 26	4.23 2.59	35 0.0%		
ee 2011 3 mo E Iansouri 2022 3 mo BIL	3.29 2.11 13 2.33 1.17 8	4.69 2.5 3.26 1.67	13 0.0% 8 0.0%		
ansouri 2022 3 mo UNI	3.35 1.82 105		05 0.2%		
zaki 2016 3 mo E	2.3 2.2 112			-1.70 [-2.36, -1.04]	
asoul 2021 3 mo E ireesha 2021 3 mo B	1.69 1.65 332 4.37 1.2 43	3.33 2.72 3 5.47 1.14	32 0.3% 43 0.2%	-1.64 [-1.98, -1.30] -1.10 [-1.59, -0.61]	
ireesha 2021 3 mo E	2.66 0.77 29	3.73 0.79	29 0.3%	-1.07 [-1.47, -0.67]	
ubtotal (95% Cl) leterogeneity: Chi <sup>2</sup> = 610.45,	df = 19 (P < 0.00001);		90 37.0%	-0.63 [-0.67, -0.60]	•
est for overall effect: Z = 37.2					
.1.6 6 months	0.70 0.75	4.70 4.71			
elik 2012 6 mo E ashi 2016 6 mo BIL	0.72 0.79 39 2.18 1.32 25	1.78 1.71 3.81 3.5		-1.06 [-1.54, -0.58] -1.63 [-3.10, -0.16]	
ashi 2016 6 mo UNI	2.21 1.32 45	2.52 1.61	45 0.1%	-0.31 [-0.92, 0.30]	-+
zaki 2016 6 mo E bao 2015 6 mo Bil	2.3 2.1 112 3.05 1.99 32			-1.70 [-2.35, -1.05]	
hao 2015 6 mo BIL hao 2015 6 mo UNI	3.05 1.99 32 4.43 2.13 36	4.68 2.87 5.02 3.05	32 0.0% 36 0.0%	-1.63 [-2.84, -0.42] -0.59 [-1.81, 0.63]	
ubtotal (95% Cl)	289			1.05 [-1.34, -0.75]	◆
leterogeneity: Chi² = 11.58, d est for overall effect: Z = 6.85		70			
.1.7 9 months					
lborzi 2014 9 mo BIL E	1.19 1.43 72	3.29 3.28		-2.10 [-2.93, -1.27]	
lborzi 2014 9 mo UNI E iacchiardi 2011 9 mo E	2.18 1.87 121 1.3 0.3 43	4.19 3.71 1 3 0.4		-2.01 [-2.75, -1.27] -1.70 [-1.85, -1.55]	
ubtotal (95% CI)	236			-1.72 [-1.87, -1.58]	♦
leterogeneity: Chi² = 1.47, df est for overall effect: Z = 23.4					
.1.8 12 months	-,				
.1.8 12 montris Jostrzewa 2019 12 mo E	2.43 2.43 25	4.23 2.59	35 0.0%	-1.80 [-3.08, -0.52]	
ostrzewa 2019 2 mo B	4.81 4.56 18	5.58 4.44	34 0.0%	-0.77 [-3.35, 1.81]	
hao 2015 12 mo BIL hao 2015 12 mo UNI	2.26 1.88 32 4.07 2.06 36	4.68 2.87 5.02 3.05	32 0.0% 36 0.0%	-2.42 [-3.61, -1.23]	
ubtotal (95% CI)	4.07 2.06 36 111			-0.95 [-2.15, 0.25] - <b>1.66 [-2.34, -0.98]</b>	◆
leterogeneity: Chi² = 3.41, df est for overall effect: Z = 4.78					
esu or overall effect:∠=4.78	(r < 0.00001)				
				0.707.07	
otal (95% CI) eterogeneity: Chi <sup>2</sup> = 1287.16	2844 6 df = 51 (P < 0 00001		17 100.0%	-0.72 [-0.74, -0.70]	-4 -2 0 2

Fig. 2. Forest plot for AMH (ng/mL)

Study or Subgroup	Post Mean	operativ SD		Prec Mean	operati SD		Weight	Mean Difference IV, Fixed, 95% CI	Mean Difference IV, Fixed, 95% Cl
<b>1.2.1 1 week</b> Rasoul 2021 1 wk E Subtotal (95% CI)	9.64	10.29	332 <b>332</b>	5.73	4.06	332 332	2.4% 2.4%	3.91 [2.72, 5.10] 3.91 [2.72, 5.10]	-
leterogeneity: Not applicable			002			002			•
est for overall effect: Z = 6.44	(P < 0.00	001)							
.2.2 1 month									
hat 2014 1 mo E	7.23	1.51	73	7.24	1.21	73	17.2%	-0.01 [-0.45, 0.43]	+
)ing 2015 1 mo BIL E	8.07	1.84	21	5.43	1.74	21	2.9%	2.64 [1.56, 3.72]	
)ing 2015 1 mo UNI B	6.1	1.28	20	5.78	1.4	20	4.9%	0.32 [-0.51, 1.15]	
Ding 2015 1 mo UNI E	5.9	1.68	29	5.87	1.93	29	3.9%	0.03 [-0.90, 0.96]	
<b>Subtotal (95% CI)</b> Heterogeneity: Chi² = 20.12, df Test for overall effect: Z = 1.81			143  ² = 85	%		143	29.0%	0.32 [-0.03, 0.66]	
.2.3 6 weeks	(1 = 0.01)								
celik 2012 6 wk E	8.7	5.74	64	6.37	3.04	65	1.3%	2.33 [0.74, 3.92]	
Subtotal (95% CI)			64			65	1.3%	2.33 [0.74, 3.92]	<b>•</b>
leterogeneity: Not applicable fest for overall effect: Z = 2.87	(P = 0.00/	4)							
.2.4 2 months									
alihoglu 2016 2 mo BIL B	7.1	2.2	33	6.9	1.9	33	3.5%	0.20 [-0.79, 1.19]	+-
Salihoglu 2016 2 mo BIL E	7	2.4	34	6.7	3	34	2.0%	0.30 [-0.99, 1.59]	
Salihoglu 2016 2 mo UNI B	5.2	2.1	33	6	1.9	33	3.6%	-0.80 [-1.77, 0.17]	<u>a 1</u>
Salihoglu 2016 2 mo UNI E	5.7	2.1	34 134	7	2.5	34	2.8%		
Subtotal (95% CI) Heterogeneity: Chi² = 5.75, df = Fest for overall effect: Z = 1.62						134	11.9%	-0.44 [-0.97, 0.09]	
1.2.5 3 months	v = 0.10)								
Alborzi 2014 3 mo E	6.99	3.92	193	6.28	3.79	193	5.7%	0.71 [-0.06, 1.48]	-
Biacchiardi 2011 3 mo E	7.8	3.92	43	6.6	3.79	43	2.4%	1.20 [0.02, 2.38]	
Georgievska2014 3mo UNI E	5.69	3.3	31		4.84	31	0.8%	-1.05 [-3.11, 1.01]	
Rasoul 2021 3 mo E	10.34		332		4.06	332	2.0%	4.61 [3.31, 5.91]	
Subtotal (95% CI)			599			599	11.0%	1.40 [0.85, 1.96]	•
Heterogeneity: Chi <sup>2</sup> = 31.95, df Fest for overall effect: Z = 4.94			); I² = 9	1%					
1.2.6 6 months	1912110.0								1.00
0 - 10 - 004 0 0 5	0.07						1.3%		No. of Concession, State of Co
	6.67	4.53	39	6.37		65		0.30 [-1.30, 1.90]	
Ding 2015 6 mo BIL E	5.97	1.97	21	5.43	1.74	21	2.7%	0.54 [-0.58, 1.66]	11
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B	5.97 6.29	1.97 1.35	21 20	5.43 5.78	1.74 1.4	21 20	2.7% 4.7%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36]	±
Celik 2012 6 mo E Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shaa 2015 6 mo UNI E	5.97 6.29 6.21	1.97 1.35 1.87	21 20 29	5.43 5.78 5.87	1.74 1.4 1.93	21 20 29	2.7% 4.7% 3.6%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32]	+
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo BIL	5.97 6.29 6.21 6.05	1.97 1.35 1.87 1.99	21 20 29 32	5.43 5.78 5.87 5.38	1.74 1.4 1.93 1.94	21 20 29 32	2.7% 4.7% 3.6% 3.7%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo BIL Shao 2015 6 mo UNI	5.97 6.29 6.21 6.05 8.26	1.97 1.35 1.87 1.99 1.88	21 20 29 32 36	5.43 5.78 5.87 5.38 5.36	1.74 1.4 1.93 1.94 1.81	21 20 29 32 36	2.7% 4.7% 3.6% 3.7% 4.7%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo BIL	5.97 6.29 6.21 6.05	1.97 1.35 1.87 1.99	21 20 29 32	5.43 5.78 5.87 5.38 5.36 5.22	1.74 1.4 1.93 1.94	21 20 29 32	2.7% 4.7% 3.6% 3.7%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Bhao 2015 6 mo BIL Bhao 2015 6 mo UNI Bhi 2011 6 mo E-IIB Bhi 2011 6 mo E-IIC Subtotal (95% CI)	5.97 6.29 6.21 6.05 8.26 5.77 5.85	1.97 1.35 1.87 1.99 1.88 1.98 2.06	21 20 29 32 36 15 18 <b>210</b>	5.43 5.78 5.87 5.38 5.36 5.22 5.55	1.74 1.4 1.93 1.94 1.81 3.32	21 20 29 32 36 15	2.7% 4.7% 3.6% 3.7% 4.7% 0.9%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Bhao 2015 6 mo BIL Bhao 2015 6 mo UNI Bhi 2011 6 mo E-IIB Bhi 2011 6 mo E-IIC	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f = 7 (P = (	1.97 1.35 1.87 1.99 1.88 1.98 2.06	21 20 29 32 36 15 18 <b>210</b>	5.43 5.78 5.87 5.38 5.36 5.22 5.55	1.74 1.4 1.93 1.94 1.81 3.32	21 20 29 32 36 15 18	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05]	+ +- +-   +- 
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo BIL Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: Z = 4.98 I.2.7 9 months	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f = 7 (P = ( (P < 0.00)	1.97 1.35 1.87 1.99 1.88 1.98 2.06 0.0008); 001)	21 20 29 32 36 15 18 <b>210</b>   <sup>2</sup> = 72	5.43 5.78 5.87 5.38 5.36 5.22 5.55	1.74 1.4 1.93 1.94 1.81 3.32 3.17	21 20 29 32 36 15 18 <b>236</b>	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6</b> %	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b>	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo BIL Shao 2015 6 mo BIL Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f = 7 (P = (	1.97 1.35 1.87 1.99 1.88 1.98 2.06	21 20 29 32 36 15 18 <b>210</b>	5.43 5.78 5.87 5.38 5.36 5.22 5.55	1.74 1.4 1.93 1.94 1.81 3.32	21 20 29 32 36 15 18	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Test for overall effect: Z = 4.98 I.2.7 9 months Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = 0 (P < 0.00) 8	1.97 1.35 1.87 1.99 1.88 2.06 0.0008); 001) 3.7	21 20 29 32 36 15 18 <b>210</b>   <sup>2</sup> = 72	5.43 5.78 5.87 5.38 5.36 5.22 5.55	1.74 1.4 1.93 1.94 1.81 3.32 3.17	21 20 29 32 36 15 18 <b>236</b> 43	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6</b> %	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Test for overall effect: $Z = 4.98$ L.2.7 9 months Diacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Test for overall effect: $Z = 2.18$	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = 0 (P < 0.00) 8	1.97 1.35 1.87 1.99 1.88 2.06 0.0008); 001) 3.7	21 20 29 32 36 15 18 <b>210</b>   <sup>2</sup> = 72	5.43 5.78 5.87 5.38 5.36 5.22 5.55	1.74 1.4 1.93 1.94 1.81 3.32 3.17	21 20 29 32 36 15 18 <b>236</b> 43	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6</b> %	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: Z = 4.98 I.2.7 9 months Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: Z = 2.18 I.2.8 12 months	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = 0 (P < 0.00) 8	1.97 1.35 1.87 1.99 1.88 2.06 0.0008); 001) 3.7	21 20 29 32 36 15 18 <b>210</b>   <sup>2</sup> = 72	5.43 5.78 5.87 5.38 5.36 5.22 5.55 %	1.74 1.4 1.93 1.94 1.81 3.32 3.17	21 20 29 32 36 15 18 <b>236</b> 43	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6</b> %	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: $Z = 4.98$ L.2.7 9 months Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: $Z = 2.18$ L.2.8 12 months Ding 2015 12 mo BIL E	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = ( (P < 0.00) 8 (P = 0.03)	1.97 1.35 1.87 1.99 1.88 1.98 2.06 0.0008); 001) 3.7	21 20 29 36 15 18 <b>210</b>   <sup>2</sup> = 72 43 43	5.43 5.78 5.87 5.38 5.36 5.22 5.55 %	1.74 1.4 1.93 1.94 1.81 3.32 3.17	21 20 29 32 36 15 18 <b>236</b> 43 43	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% 22.6% 2.1% 2.1%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] <b>1.40 [0.14, 2.66]</b>	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Test for overall effect: Z = 4.98 I.2.7 9 months Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Test for overall effect: Z = 2.18 I.2.8 12 months Ding 2015 12 mo BIL E Ding 2015 12 mo UNI B	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = ( (P < 0.00) 8 (P = 0.03) 5.85	1.97 1.35 1.87 1.99 1.88 1.98 2.06 0.0008); 001) 3.7	21 20 29 32 36 15 18 <b>210</b>   <sup>2</sup> = 72 43 43 43	5.43 5.78 5.87 5.38 5.36 5.22 5.55 % 6.6 5.43 5.78	1.74 1.4 1.93 1.94 1.81 3.32 3.17 2 1.74	21 20 29 32 36 15 18 <b>236</b> 43 43 43	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% 22.6% 2.1% 2.1% 2.1%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] <b>1.40 [0.14, 2.66]</b> 0.42 [-0.69, 1.53]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo BIL Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: Z = 4.98 I.2.7 9 months Biacchiardi 2011 9 mo E	5.97 6.29 6.21 6.05 8.26 5.77 5.85 (P = 0.00) 8 (P = 0.03) 5.85 5.86	1.97 1.35 1.87 1.99 1.88 2.06 0.0008); 001) 3.7 1.93 1.71	21 20 29 32 36 15 18 <b>210</b> <b>1</b> <sup>2</sup> = 72 43 <b>43</b> 43 21 20	5.43 5.78 5.87 5.38 5.36 5.22 5.55 % 6.6 5.43 5.78 5.78 5.78 5.87	1.74 1.4 1.93 1.94 1.81 3.32 3.17 2 1.74 1.4	21 20 29 32 36 15 18 <b>236</b> 43 43 43 21 20	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% 22.6% 2.1% 2.1% 3.6% 3.3% 3.9%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] <b>1.40 [0.14, 2.66]</b> <b>1.40 [0.14, 2.66]</b> 0.42 [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Test for overall effect: $Z = 4.98$ <b>I.2.7 9 months</b> Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Test for overall effect: $Z = 2.18$ <b>I.2.8 12 months</b> Ding 2015 12 mo BIL E Ding 2015 12 mo UNI B Ding 2015 12 mo UNI E Shao 2015 12 mo BIL	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = 0 (P < 0.00) 8 (P = 0.03) 5.85 5.85 5.86 6.23 2.26 3.05	1.97 1.35 1.87 1.98 1.98 2.06 0.0008); 001) 3.7 1.93 1.71 2	21 20 29 32 36 15 8 <b>210</b> <b>1<sup>≠</sup> = 72</b> 43 <b>43</b> 43 21 20 29	5.43 5.78 5.87 5.38 5.36 5.22 5.55 % 6.6 6.6 5.43 5.78 5.78 5.78 5.78 5.78 5.78 5.78 5.78	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.93 1.94 1.93 1.94 1.94	21 20 29 32 36 15 18 <b>236</b> 43 43 43 21 20 29	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% 22.6% 2.1% 2.1% 3.6% 3.3% 3.9%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] <b>1.40 [0.14, 2.66]</b> 1.40 [0.14, 2.66] 0.42 [-0.69, 1.53] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -2.31 [-3.19, -1.43]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: $Z = 4.98$ L.2.7 9 months Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: $Z = 2.18$ L.2.8 12 months Ding 2015 12 mo UNI E Ding 2015 12 mo UNI E Shao 2015 12 mo UNI Shao 2015 12 mo UNI Shia 2015 12 mo UNI	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = ( (P < 0.00) 8 (P = 0.03) 5.85 5.86 6.23 2.26 3.05 4.85	1.97 1.35 1.87 1.98 1.88 2.06 0.0008); 001) 3.7 1.93 1.71 2 1.88 1.99 3.17	21 20 29 32 36 15 18 <b>210</b> <b>1</b> <sup>2</sup> = 72 43 43 43 21 20 29 32 36 15 15 18 210 21 21 21 21 21 21 21 21 21 21	5.43 5.78 5.87 5.38 5.22 5.55 % 6.6 5.43 5.87 5.43 5.87 5.88 5.87 5.38 5.36 5.36 5.36 5.32	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	21 20 29 32 36 15 18 <b>236</b> 43 43 43 43 21 20 29 23 23 6 15	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6%</b> 2.1% 2.1% 3.6% 3.3% 3.3% 3.3% 3.9%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 0.42 [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -2.31 [-3.19, -1.43] -0.37 [-2.69, 1.95]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI E Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: $Z = 4.98$ <b>I.2.7 9 months</b> Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: $Z = 2.18$ <b>I.2.8 12 months</b> Ding 2015 12 mo BIL E Ding 2015 12 mo BIL E Ding 2015 12 mo UNI E Shao 2015 12 mo UNI E Shao 2015 12 mo UNI Shi 2011 12 mo E-IIB Shi 2011 12 mo E-IIB	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f= 7 (P = 0 (P < 0.00) 8 (P = 0.03) 5.85 5.85 5.86 6.23 2.26 3.05	1.97 1.35 1.87 1.98 2.06 0.0008); 001) 3.7 1.93 1.71 2 1.88 1.99	21 20 29 32 15 18 <b>210</b> <b>7</b> = 72 <b>43</b> <b>43</b> <b>43</b> <b>43</b> <b>43</b> 21 20 29 32 36 15 15 18	5.43 5.78 5.87 5.38 5.22 5.55 % 6.6 5.43 5.87 5.43 5.87 5.88 5.87 5.38 5.36 5.36 5.36 5.32	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.93 1.94 1.93 1.94 1.94	21 20 29 32 36 15 18 <b>236</b> 43 43 43 21 20 29 32 36 5 18	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6%</b> 2.1% 2.1% 3.6% 3.3% 3.9% 4.4% 0.6% 5.10%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] <b>1.40 [0.14, 2.66]</b> <b>0.42</b> [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -0.37 [-2.69, 1.95] -0.63 [-2.43, 1.17]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI B Shao 2015 6 mo UNI B Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: $Z = 4.98$ <b>1.2.7 9 months</b> Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: $Z = 2.18$ <b>1.2.8 12 months</b> Ding 2015 12 mo BIL E Ding 2015 12 mo BIL E Ding 2015 12 mo UNI B Shao 2015 12 mo UNI B Shi 2011 12 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 46.64, df	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f = 7 (P = 0 (P < 0.00) 8 (P = 0.03) 5.85 5.85 5.85 5.85 5.85 5.85 5.85 5.8	1.97 1.35 1.87 1.98 2.06 0.0008); 001) 3.7 1.93 1.71 2.28 0.00001	21 20 29 36 15 18 <b>210</b> <b>2</b> <sup>7</sup> <b>=</b> 72 43 43 43 21 20 29 32 36 18 8 <b>171</b>	5.43 5.78 5.87 5.38 5.36 5.22 5.55 % 6.6 5.43 5.78 5.78 5.78 5.78 5.78 5.78 5.78 5.78	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	21 20 29 32 36 15 18 <b>236</b> 43 43 43 43 21 20 29 23 23 6 15	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6%</b> 2.1% 2.1% 3.6% 3.3% 3.9% 4.4% 0.6% 1.0%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 0.42 [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -2.31 [-3.19, -1.43] -0.37 [-2.69, 1.95]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI E Shao 2015 6 mo UNI Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Test for overall effect: $Z = 4.98$ <b>I.2.7 9 months</b> Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Test for overall effect: $Z = 2.18$ <b>I.2.8 12 months</b> Ding 2015 12 mo BIL E Ding 2015 12 mo UNI B Ding 2015 12 mo UNI E Shao 2015 12 mo UNI E Shao 2015 12 mo UNI B Shao 2015 12 mo UNI Shi 2011 12 mo E-IIE Shi 2011 12 mo E-IIE Shi 2011 12 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 46.64, df Test for overall effect: $Z = 4.92$	5.97 6.29 6.21 6.05 8.26 5.77 5.85 f = 7 (P = 0 (P < 0.00) 8 (P = 0.03) 5.85 5.85 5.85 5.85 5.85 5.85 5.85 5.8	1.97 1.35 1.87 1.98 2.06 0.0008); 001) 3.7 1.93 1.71 2.28 0.00001	21 20 29 32 15 18 <b>210</b> 29 32 43 43 43 43 21 20 29 32 36 15 18 171 18 171	5.43 5.78 5.87 5.38 5.36 5.22 5.55 % 6.6 5.43 5.78 5.78 5.78 5.78 5.78 5.78 5.78 5.78	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	21 20 29 32 36 15 18 <b>236</b> 43 <b>43</b> 43 43 21 20 29 32 29 36 15 18 171	2.7% 4.7% 3.6% 3.7% 0.9% 1.1% <b>22.6%</b> 2.1% 2.1% 3.6% 3.3% 3.3% 4.4% 0.6% 1.0% <b>19.6</b> %	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 0.42 [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -2.31 [-3.19, -1.43] -0.37 [-2.69, 1.95] -0.63 [-2.43, 1.17] -1.04 [-1.46, -0.63]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI E Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: $Z = 4.98$ <b>1.2.7 9 months</b> Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: $Z = 2.18$ <b>1.2.8 12 months</b> Ding 2015 12 mo BIL E Ding 2015 12 mo BIL E Ding 2015 12 mo UNI B Ding 2015 12 mo UNI B Ding 2015 12 mo UNI B Shao 2015 12 mo UNI B Shi 2011 12 mo E-IIB Shi 2011 12 mo E-IIB Shi 2011 12 mo E-IIB Shi 2011 12 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 46.64, df Fest for overall effect: $Z = 4.92$	5.97 6.29 6.21 6.05 8.26 5.77 5.85 (P < 0.00) 8 (P = 0.03) 5.85 5.86 6.23 2.26 3.05 4.85 4.92 f = 6 (P < ( (P < 0.00)	1.97 1.35 1.87 1.98 2.06 0.0008); 001) 3.7 1.93 1.71 2 1.88 1.99 3.17 2.28 0.00001]	21 20 29 36 15 18 <b>210</b> 2° 72 43 43 43 43 20 29 32 36 15 18 8 <b>171</b> 20 29 32 36 15 18 8 <b>171</b> 20 9 32 236 6 15 18 8 7 20 9 19 19 19 19 19 19 19 19 19 19 19 19 1	5.43 5.87 5.38 5.36 5.22 5.55 % 6.6 5.43 5.78 5.38 5.36 5.87 5.38 5.36 5.22 5.55 7%	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	21 20 29 32 36 15 18 <b>236</b> 43 <b>43</b> 43 43 21 20 29 32 29 36 15 18 171	2.7% 4.7% 3.6% 3.7% 4.7% 0.9% 1.1% <b>22.6%</b> 2.1% 2.1% 3.6% 3.3% 3.9% 4.4% 0.6% 1.0%	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] <b>1.40 [0.14, 2.66]</b> <b>0.42</b> [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -0.37 [-2.69, 1.95] -0.63 [-2.43, 1.17]	
Ding 2015 6 mo BIL E Ding 2015 6 mo UNI B Ding 2015 6 mo UNI E Shao 2015 6 mo UNI E Shao 2015 6 mo UNI Shi 2011 6 mo E-IIB Shi 2011 6 mo E-IIC Subtotal (95% CI) Heterogeneity: Chi <sup>2</sup> = 24.74, df Fest for overall effect: $Z = 4.98$ <b>1.2.7 9 months</b> Biacchiardi 2011 9 mo E Subtotal (95% CI) Heterogeneity: Not applicable Fest for overall effect: $Z = 2.18$ <b>1.2.8 12 months</b> Ding 2015 12 mo BIL E Ding 2015 12 mo UNI B Ding 2015 12 mo UNI B	5.97 6.29 6.21 6.05 8.26 5.77 5.85 (P < 0.001) 8 (P < 0.001) 5.85 5.86 6.23 2.26 3.05 4.85 4.92 (P < 0,001) 5.85 5.86 6.23 2.26 3.05 4.85 4.92 (P < 0,001) 6 (P < 0,001) 6 (P < 0,001) 5.85 5.86 6.23 2.26 3.05 4.85 4.92 (P < 0,001) 6 (P < 0,001) 5.85 5.86 6.23 2.26 3.05 4.85 4.92 (P < 0,001) 5.85 5.86 6.23 2.26 6.23 5.85 5.86 6.23 2.26 6.23 5.85 5.86 6.23 2.26 6.23 2.26 6.23 5.85 5.85 6.23 2.26 6.23 2.26 6.23 2.26 5.85 5.85 5.85 6.23 2.26 6.23 2.26 7.85 5.85 5.85 6.23 2.26 3.05 4.85 5.85 5.85 6.23 2.26 3.05 4.85 5.85 5.85 6.23 2.26 3.05 4.85 5.85 5.85 6.23 2.26 6.23 2.26 3.05 5.85 5.85 6.23 2.26 3.05 5.85 5.85 6.23 2.26 3.05 5.85 5.85 6.23 2.26 3.05 4.85 5.85 6.23 2.26 3.05 4.85 5.85 6.23 2.26 3.05 4.85 5.85 6.23 2.26 6.23 2.26 6.22 6.22 6.22 6.22	1.97 1.35 1.87 1.98 2.06 0.0008); 001) 3.7 1.93 1.71 2 1.88 1.99 3.171 2.28 0.00001; 001) < 0.000	21 20 29 36 15 18 <b>210</b> 2° 72 43 43 43 43 20 29 32 36 15 18 8 <b>171</b> 20 29 32 36 15 18 8 <b>171</b> 20 9 32 236 6 15 18 8 7 20 9 19 19 19 19 19 19 19 19 19 19 19 19 1	5.43 5.87 5.38 5.36 5.22 5.55 % 6.6 5.43 5.78 5.38 5.36 5.87 5.38 5.36 5.22 5.55 7%	1.74 1.93 1.94 1.81 3.32 3.17 2 1.74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	21 20 29 32 36 15 18 <b>236</b> 43 <b>43</b> 43 43 21 20 29 32 29 36 15 18 171	2.7% 4.7% 3.6% 3.7% 0.9% 1.1% <b>22.6%</b> 2.1% 2.1% 3.6% 3.3% 3.3% 4.4% 0.6% 1.0% <b>19.6</b> %	0.54 [-0.58, 1.66] 0.51 [-0.34, 1.36] 0.34 [-0.64, 1.32] 0.67 [-0.29, 1.63] 2.90 [2.05, 3.75] 0.55 [-1.41, 2.51] 0.30 [-1.45, 2.05] <b>0.99 [0.60, 1.37]</b> 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 1.40 [0.14, 2.66] 0.42 [-0.69, 1.53] 0.08 [-0.89, 1.05] 0.36 [-0.65, 1.37] -3.12 [-4.06, -2.18] -2.31 [-3.19, -1.43] -0.37 [-2.69, 1.95] -0.63 [-2.43, 1.17] -1.04 [-1.46, -0.63]	

Fig. 3. Forest plot for FSH (mIU/mL)

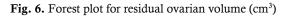
	Posto	operat			operati	ve		Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% Cl		
1.3.1 1 month											
Bhat 2014 1 mo E Subtotal (95% CI)	6.6	2.3	73 <b>73</b>	6.37	1.8	73 <b>73</b>	40.4% <b>40.4</b> %	0.23 [-0.44, 0.90] <b>0.23 [-0.44, 0.90]</b>			
Heterogeneity: Not applicat Test for overall effect: Z = 0.		0.50)									
1.3.2 6 weeks											
Celik 2012 6 wk E Subtotal (95% Cl)	6.33	7.89	64 64	7.32	9.02	65 <b>65</b>		-0.99 [-3.91, 1.93] - <b>0.99 [-3.91, 1.93]</b>			
Heterogeneity: Not applicat Test for overall effect: Z = 0.		0.51)									
1.3.3 3 months											
Biacchiardi 2011 3 mo E Subtotal (95% CI)	4.5	1.7	43 43	5	2	43 <b>43</b>		-0.50 [-1.28, 0.28] - <b>0.50 [-1.28, 0.28]</b>			
Heterogeneity: Not applicat	le		10			10	2011/0		-		
Test for overall effect: Z = 1.	25 (P = I	0.21)									
1.3.4 6 months											
Celik 2012 6 mo E	5.64	4.43	39 <b>39</b>	7.32	9.02	65 65		-1.68 [-4.28, 0.92] - <b>1.68 [-4.28, 0.92]</b>			
Subtotal (95% CI) Heterogeneity: Not applicat	le		29			60	2.170	-1.08 [-4.28, 0.92]			
Test for overall effect: Z = 1.		0.20)									
1.3.5 9 months											
Biacchiardi 2011 9 mo E Subtotal (95% CI)	4.2	2	43 43	5	2	43 43		-0.80 [-1.65, 0.05] - <b>0.80 [-1.65, 0.05]</b>	•		
Heterogeneity: Not applicat	le										
Test for overall effect: Z = 1.	85 (P = I	0.06)									
Total (95% CI)			262			289	<b>100.0</b> %	-0.32 [-0.75, 0.10]	◆		
Heterogeneity: Chi² = 5.28,			6); I <b>2</b> = 2	24%				_	-4 -2 0 2 4		
Test for overall effect: Z = 1. Test for subgroup differenci	· ·								Postoperative Preoperative		

Fig. 4. Forest plot for LH (mIU/mL)

	Post	operativ	/e	Pred	perativ	e		Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% Cl	IV, Fixed, 95% Cl
1.4.1 6 weeks									
Celik 2012 6 wk E Subtotal (95% CI)	101.56	125.19	64 64	87.66	63.54	65 65		13.90 [-20.44, 48.24] 13.90 [-20.44, 48.24]	
Heterogeneity: Not applicable									
Fest for overall effect: Z = 0.79 (	P = 0.43)								
1.4.2 3 months									
Nborzi 2014 3 mo E	50.7	45.1	193	54.7	49.5	193	37.3%	-4.00 [-13.45, 5.45]	
3iacchiardi 2011 3 mo E	33.5	29.3	43	35.2	24.5	43	25.5%	-1.70 [-13.12, 9.72]	<b>-</b>
Georgievska2014 3mo UNI E	135.52	91.3	31	120.57	90.89	31	1.6%	14.95 [-30.40, 60.30]	
Subtotal (95% CI)			267			267	64.5%	-2.61 [-9.80, 4.57]	<b>•</b>
Heterogeneity: Chi² = 0.68, df = Fest for overall effect: Z = 0.71 (		1); I² = 0'	%						
1.4.3 6 months									
Celik 2012 6 mo E	91.15	74.58	39	87.66	63.54	65	4.2%	3.49 [-24.55, 31.53]	
Subtotal (95% CI)			39			65	4.2%	3.49 [-24.55, 31.53]	
Heterogeneity: Not applicable									
est for overall effect: Z = 0.24 (	P = 0.81)								
.4.4 9 months									
Biacchiardi 2011 9 mo E	32.9	26.6	43	35.2	24.5	43	28.5%	-2.30 [-13.11, 8.51]	
Subtotal (95% CI)			43			43	28.5%	-2.30 [-13.11, 8.51]	-
leterogeneity: Not applicable									
Fest for overall effect: Z = 0.42 (	P = 0.68)								
Fotal (95% CI)			413			440	100.0%	-1.80 [-7.57, 3.97]	•
Heterogeneity: Chi² = 1.68, df =	5 (P = 0.8	9); I <sup>z</sup> = 0	%						-50 -25 0 25 50
Test for overall effect: Z = 0.61 (	P = 0.54)								-50 -25 0 25 50 Postoperative Preoperative
Fest for subgroup differences: (	Chi <sup>2</sup> = 1.0	0, df = 3 (	(P = 0.8	0), I <sup>2</sup> = 09	%				· Jatoperative · reoperative

Fig. 5. Forest plot for estradiol (pg/mL)

	Post	operati	ve	Pre	operativ	/e		Mean Difference		Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI		IV, Fixed, 95% Cl		
1.6.1 1 month												
Bhat 2014 1 mo E	7.4	5.8	73	8.5	5.3	73	1.9%	-1.10 [-2.90, 0.70]				
Georgievska 2015 1 mo E	13.06	7.34	30	53.46	29.97	30		-40.40 [-51.44, -29.36]	•	-		
Subtotal (95% CI)			103			103	1.9%	-2.12 [-3.90, -0.34]				
Heterogeneity: Chi <sup>2</sup> = 47.40, df	= 1 (P < (	0.00001	); <b>Iz</b> = 9	8%								
Test for overall effect: Z = 2.34 (	(P = 0.02)	I										
1.6.2 3 months												
Biacchiardi 2011 3 mo E	8.5	0.6	33	10.5	0.8	33	52.3%	-2.00 [-2.34, -1.66]		<b>+</b>		
Chang 2010 3 mo	11.6	6.01	20	13.07	9.54	20	0.2%	-1.47 [-6.41, 3.47]				
Ercan 2011 3 mo UNI E	3.7	2.1	36	4.5	2	36	6.8%	-0.80 [-1.75, 0.15]				
Georgievska2014 3mo UNI E	12.56	10.81	31	76.64	66.13	31	0.0%	-64.08 [-87.67, -40.49]	•			
Georgievska 2015 3 mo E	13.28	7.17	30	53.46	29.97	30	0.1%	-40.18 [-51.21, -29.15]	•			
Kostrzewa 2019 3 mo B	13.95	5.63	23	12.8	7.6	34	0.5%	1.15 [-2.29, 4.59]				
Kostrzewa 2019 3 mo E	11.62	6.02	26	10.41	5.19	35	0.7%	1.21 [-1.67, 4.09]				
Subtotal (95% CI)			199			219	60.7%	-1.84 [-2.16, -1.52]		•		
Heterogeneity: Chi <sup>2</sup> = 85.89, df	•		); I <b>z</b> = 9	3%								
Test for overall effect: Z = 11.39	I (P ≺ 0.0I	0001)										
1.6.3 9 months												
Biacchiardi 2011 9 mo E	8.6	0.9	33	10.5	0.8	33	36.1%	-1.90 [-2.31, -1.49]		+		
Subtotal (95% Cl)			33			33	36.1%	-1.90 [-2.31, -1.49]		•		
Heterogeneity: Not applicable												
Test for overall effect: Z = 9.06 (	(P < 0.00)	001)										
1.6.4 12 months												
Kostrzewa 2019 12 mo E	11.91	5.4		10.41	5.19	35	0.8%	1.50 [-1.23, 4.23]		<u> </u>		
Kostrzewa 2019 2 mo B	15.1	5.07	18	12.8	7.6	34	0.5%	2.30 [-1.17, 5.77]				
Subtotal (95% CI)			43			69	1.3%	1.81 [-0.34, 3.95]				
Heterogeneity: Chi <sup>2</sup> = 0.13, df =			0%									
Test for overall effect: Z = 1.65 (	(P = 0.10)	I										
Total (95% CI)			378			424	<b>100.0</b> %	-1.82 [-2.07, -1.57]		•		
Heterogeneity: Chi <sup>2</sup> = 144.68, d	f=11 (P	< 0.000	01); <b>I</b> ² :	= 92%								
Test for overall effect: Z = 14.45	(P < 0.0	0001)								Postoperative Preoperative		
				A A 45 1	<sup>2</sup> = 73.4	~				i sereperante i reeperante		



	Posto	perat	ive	Preo	perati	ve		Mean Difference	Mean Difference			
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% Cl	IV, Fixed, 95% Cl			
1.7.1 2 days												
Ercan 2011 2 days UNI E Subtotal (95% CI)	9.4	3.9	36 <b>36</b>	14.2	3.4	36 <b>36</b>		-4.80 [-6.49, -3.11] - <b>4.80 [-6.49, -3.11]</b>	•			
Heterogeneity: Not applicab	le											
Test for overall effect: Z = 5.	57 (P < 0	.0000	1)									
1.7.2 1 month												
Bhat 2014 1 mo E Subtotal (95% CI)	7.1	3.55	73 <b>73</b>	6.8	4.57	73 <b>73</b>	40.9% 4 <b>0.9</b> %	0.30 [-1.03, 1.63] <b>0.30 [-1.03, 1.63]</b>	-			
Heterogeneity: Not applicab	le											
Test for overall effect: Z = 0.4	44 (P = 0	.66)										
1.7.3 3 months												
Ercan 2011 3 mo UNI E Subtotal (95% CI)	11.8	2.9	36 <b>36</b>	14.2	3.4	36 <b>36</b>		-2.40 [-3.86, -0.94] - <b>2.40 [-3.86, -0.94]</b>	-			
Heterogeneity: Not applicab Test for overall effect: Z = 3.3		.001)										
Total (95% CI)			145			145	100.0%	-1.90 [-2.75, -1.05]	•			
Heterogeneity: Chi <sup>2</sup> = 22.31	df = 2 (F	, <uu< td=""><td></td><td>²= 91%</td><td></td><td></td><td></td><td></td><td></td></uu<>		²= 91%								
Test for overall effect: Z = 4.3	• •			0170					-4 -2 0 2 4			
Test for subgroup difference			r		00043	12 - 04	00		Postoperative Preoperative			

Fig. 7. Forest plot for PSV (cm/second)