

Regret after Gender-affirmation Surgery: A Systematic Review and Meta-analysis of Prevalence—Erratum

The authors of the March 2021 Gender Affirming Surgery Mini-series article entitled “Regret after Gender-affirmation Surgery: A Systematic Review and Meta-analysis of Prevalence” (*Plast Reconstr Surg Glob Open.* 2021;9(3):e3477), wish to make the following corrections in the tables and figures. The systematic review was re-conducted, and the meta-analysis was re-run with the updated

numbers with no significant or major changes. The updated tables and figures are included below.

REFERENCE

1. Bustos VP, Bustos SS, Mascaro A, et al. Regret after gender-affirmation surgery: a systematic review and meta-analysis of prevalence. *Plast Reconstr Surg Global Open.* 2021;9:e3477.

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Table 2. Study Characteristics

Authors (Year of publication)	Country	Sample Size	Trans-masculine	Mean Age at Surgery, yr	Trans-feminine	Mean Age at Surgery, yr	Mean Follow-up after Surgery, yr	Assessment Tool	Risk of Bias
Blanchard et al, 1989	Canada	111	61	28.5	50	41.4 (He), 29.0 (Ho)	4.4	Q	H
Bouman, 1988	Netherlands	55	NA	NA	55	NA	2.3	NS	M
Cohen-Kettenis et al, 1997	Netherlands	19	14	17.5 ^a	5	17.5 ^a	2.6	Q/I	H
De Cuypere et al, 2006	Belgium	62	27	27.4	35	37.7	Transmasculine = 7.6 Transfeminine = 4.1 RAP without = 6.8 RAP = 2.2	Q/I	M
Garcia et al, 2014	United Kingdom	25	25	34 – RAP without 39.2 – RAP	NA	NA	SP = 2.2 Range: 1 – 1.6 0.7	I	H
Imbimbo et al, 2009	Italy	139	NA	35.1 – SP	139	31.4	SP = 2.2 Range: 1 – 1.6 0.7	Q	H
Jiang et al, 2018	USA	80	NA	NA	79 (+ 1 NB)	57.9 – Vulvoplasty 39.2 – Vaginoplasty ^b		I	H
Johansson et al, 2010	Sweden	32	14	31.4	18	38.2	9	Q/I	L
Krege et al, 2001	Germany	31	NA	NA	31	Me 36.9	NS	Q	H
Kuiper et al, 1998	Netherlands	1,100	300	46.4 ^c	800	46.4 ^c	NS	Q	H
Lawrence, 2003	USA	232	NA	NA	232	44	NS	Q	M
Lobato et al, 2006	Brazil	19	1	33.2 ^a	18	32.2 ^a	2.1	Q/I	M
Nelson et al, 2009	United Kingdom	12	12	31	NA	NA	0.8	Q	M
Olson-Kennedy et al, 2018	USA	68	68	17.5	NA	NA	<1-5	Q	M
Papadopoulos et al, 2017	Germany	47	NA	NA	47	38.3	1.6	Q	L
Pfäfflin, 1993	Germany	295	99	NS	196	NS	Range: 1 - 29	NS	M
Rehman et al, 1999	USA	28	NA	NA	28	38.0	NS	Q/I	L
Smith et al, 2001	Netherlands	20	13	16.6 ^a	7	16.6 ^a	1.3	I	M
Song et al, 2011	Singapore	8	8	NS	NA	NA	NS	Q	H
Van de Grift et al, 2018	Netherlands, Belgium, Germany, Norway	132	51	36.3 ^a	81	36.3 ^a	Range: 1-10 NS	Q	M
Wiepjes et al, 2018	Netherlands	2,627	885	Adults: Me 25 Adolescents: Me 16	1,742	Adults: Me 33 Adolescents: Me 16	2.8	Medical records	M
Zavlin et al, 2018	Germany	40	NA	NA	40	38.6	0.9	Q	M
Judge et al, 2014	Ireland	55	19	32.2 ^c	36	36.2 ^d	NS	Medical Records	M
Vujovic et al, 2009	Serbia	118	59	25.7	59	25.4	NS	NS	H
Weyers et al, 2009	Belgium	50	NA	NA	50	43.1	6.3	Q	L
Poudrier et al, 2019	USA	54	54	33	NA	NA	NS	Q	M
Landén et al, 1998 Es	Sweden	213	NS	NS	NS	NS	NS	Medical Records and Verdicts	M

H, High; He, Heterosexual; Ho, Homosexual; IQR, Interquartile Range; I, Interview; L, Low; M, Moderate; Me, Median; NA, Not applicable; NS: Not specified; Q: Questionnaire; RAP: Radial Arterial Forearm-Flap

Phalloplasty without or with cutaneous nerve to clitoral nerve anastomosis; SP: Suprapubic Pedicle-Flap Phalloplasty.

^aReflects the mean of both transmasculine and transfeminine.

^bIncludes both scheduled and completed surgery.

^cReflects the mean of both transmasculine and transfeminine for 10 patients who reported regret.

^dIncludes both surgery and no surgery patients.

Table 3. Studies Differentiating Type of Surgery among Transfeminine Patients

Type of Surgery	Number of Procedures
Breast Augmentation	
Van de Grift et al, 2018	33
Zavlin et al, 2017	19
Judge et al, 2014	16
Vujovic et al, 2009	11
Weyers et al, 2009	48
Total	127
Vaginoplasty	
Blanchard et al, 1989	50
Bouman, 1988	55
Cohen-Kettenis et al, 1997	5
Imbimbo et al, 2009	139
Jiang et al, 2018	64
Krege et al, 2001	31
Kuiper et al, 1998	8
Lawrence, 2003	232
Lobato, 2006	18
Papadopulos et al, 2017	47
Rehman et al, 1999	28
Smith et al, 2001	7
Van de Grift et al, 2018	71
Zavlin et al, 2018	40
Weyers et al, 2009	50
Total	845
Vulvoplasty	
Rehman et al, 1999	28
Jiang et al, 2018	16
Total	44
Others	
Lawrence, 2003	Clitoroplasty 232
Rehman et al, 1999	Clitoroplasty 28 + labioplasty 28 + Orchiectomy 5
Van de Grift et al, 2018	Thyroid cartilage reduction 9, facial surgeries 7, and vocal cord 3
Wiepjes et al, 2018	Gonadectomy 1,742
Judge et al, 2014	Facial surgeries 6, laryngeal surgeries 2
Weyers et al, 2009	Vocal cord surgeries 20, cricoid reduction 15

GAS, Gender affirmation surgery.

Table 4. Studies Differentiating Type of Surgery among Transmasculine Patients

Type of Surgery	Number of Procedures
Mastectomy	
Blanchard et al, 1989	61
Cohen-Kettenis et al, 1997	14
Kuiper et al, 1998	1
Nelson et al, 2009	12
Olson-Kennedy et al, 2018	68
Smith et al, 2001	13
Van de Grift et al, 2018	49
Judge et al, 2014	19
Poudrier et al, 2019	54
Total	291
Phalloplasty	
Cohen-Kettenis et al, 1997	1
Garcia et al, 2014	25
Smith et al, 2001	1
Song et al, 2011	8
Van de Grift et al, 2018	15
Total	50
Hysterectomy	
Kuiper et al, 1998	1
Van de Grift et al, 2018	48
Total	49
Others	
Cohen-Kettenis et al, 1997	Neoscrotum 2
Smith et al, 2001	Neoscrotum 2
Kuiper et al, 1998	Oophorectomy 1
Van de Grift et al, 2018	Metoidioplasty 3
Wiepjes et al, 2018	Gonadectomy 885

GAS, Gender affirmation surgery.

Table 5. Type of Regret

Studies	Number of Regrets	Transmasculine	Transfeminine	Type of Regrets based on Pfafflin, 1993		Type of Regrets based on Kuiper and Cohen-Kettenis, 1998				Surgery	Detransition (Y/N)
				Minor	Major	1	2	3	4		
Blanchard et al, 1989	4	-	4	4	-	2	2	-	-	Vaginoplasty	N
Bouman, 1988	1	-	1	-	1	1	-	-	-	Vaginoplasty	NS
De Cuypere et al, 2006	2	1	1	2	-	-	2	-	-	NS	NS
Imbimbo et al, 2009	8	-	8	NS	NS	NS	NS	NS	NS	Vaginoplasty	NS
Jiang et al, 2018	1	-	1	1	-	-	1	-	-	Vulvoplasty	NS
Kuiper et al, 1998	10	1	9	4	6	6	3	1	-	Transfeminine, Vaginoplasty (except one castrated) Transmasculine, mastectomy, hysterectomy, and oophorectomy	1 testicles implant removal and underwent breast augmentation
Lawrence, 2003	15	-	15	13	2	2	13	-	-	Vaginoplasty	NS
Olson-Kennedy et al, 2018	1	1	-	NS	NS	NS	NS	NS	NS	Mastectomy	NS
Pfäfflin, 1993	3	3	-	-	3	3	-	-	-	NS (complication urethral-vaginal fistula)	NS
Van de Grift et al, 2018	2	1	1	2	-	-	2	-	-	Transfeminine= Vaginoplasty Transmasculine= mastectomy and uterus extirpation (hematoma)	NS
Wiepjes et al, 2018	14	3	11	0	14	13	1	0	0	Gonadectomy	Y (10) ^a
Zavlin et al, 2018	1	-	1	NS	NS	NS	NS	NS	NS	Vaginoplasty	NS
Judge et al, 2014	3	-	3	NS	NS	NS	NS	NS	NS	NS	NS
Weyers et al, 2009	2	-	2	NS	NS	NS	NS	NS	NS	Vaginoplasty	NS
Poudrier et al, 2019	2	2	-	2	-	-	2	-	-	Mastectomy	NS
Landén et al, 1998	8	NS	NS	-	8	8	-	-	-	NS	Y

N, no; NS, not specified; Y, Yes.

^a 8 mastectomies, 2 vaginectomies, 2 phalloplasties, 2 testicular implants removal, and 1 breast augmentation

Table 6. Causes of Regret

Studies	Reasons of Regrets
Blanchard et al, 1989	<ul style="list-style-type: none"> • 1 patient was dissatisfied with life as a female and considered returning to male role. • 1 patient reported that surgery failed to produce the coherence of mind and body he wanted. • 1 patient would not opt for a new surgery as it hadn't accomplished what she wanted. • 1 patient dressed as male but didn't feel as female nor male.
Bouman, 1988	Work and social acceptance
De Cuypere et al, 2006	<ul style="list-style-type: none"> • Transmasculine = Physiologic period before GAS (delusional disorder-erotomaniac type), scored very low in credibility • Transfeminine = Emotionally troubled by a break-up with his girlfriend
Imbimbo et al, 2009	NS
Kuiper et al, 1998	<ul style="list-style-type: none"> • 4 patients mentioned they were not transsexual. • 1 patient after surgery she realized she did not want to live as a woman. 1 never wished for the surgery (forced by the partner). • 2 patients lost the partner and social problems.
Lawrence, 2003	<ul style="list-style-type: none"> • 1 patient had no doubts (double role requested by partner). • 8 patients felt disappointed with physical or functional outcomes of surgery (lost clitoris sensation) • 2 participants reported reversion to living as a man after GAS.
Olson-Kennedy et al, 2018	There were family and social problems
Pfäfflin, 1993	NS
Van de Grift et al, 2018	<ul style="list-style-type: none"> • Transmasculine = Body does not meet the feminine ideal. • Transfeminine= Recurrent abdominal pains, dependence on exogenous hormones.
Wiepjes et al, 2018	<ul style="list-style-type: none"> • 5 patients had social regret (still as their former role/ "ignored by surroundings" or "the loss of relatives is a large sacrifice"). • 7 patients had true regret (though that the surgery was the solution). • 2 patients felt non-binary.
Zavlin et al, 2018	NS
Judge et al, 2014	NS
Weyers et al, 2009	NS
Poudrier et al, 2019	Aesthetic outcomes
Landén et al, 1998	NS

GAS, Gender affirmation surgery; NS, not specified

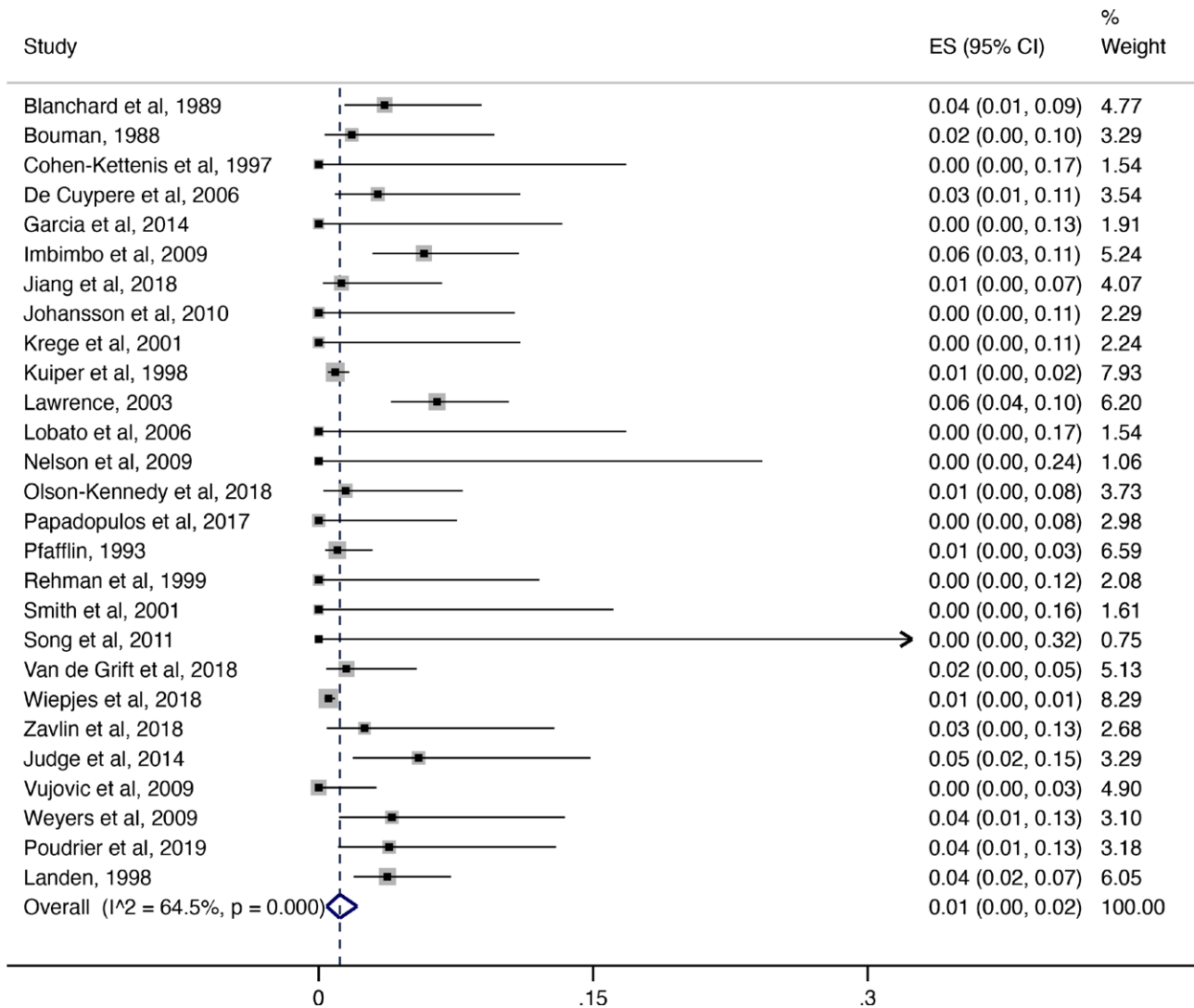


Fig. 2. Pooled prevalence of regret among TGNB individuals after gender affirmation surgery. Heterogeneity $\chi^2 = 73.25$ (d.f. = 26) $p = 0.00$, I^2 [variation in effect size (ES) attributable to heterogeneity] = 64.51%, Estimate of between-study variance $\tau^2 = 0.01$, Test of $ES=0$: $z = 4.46$ $p = 0.00$

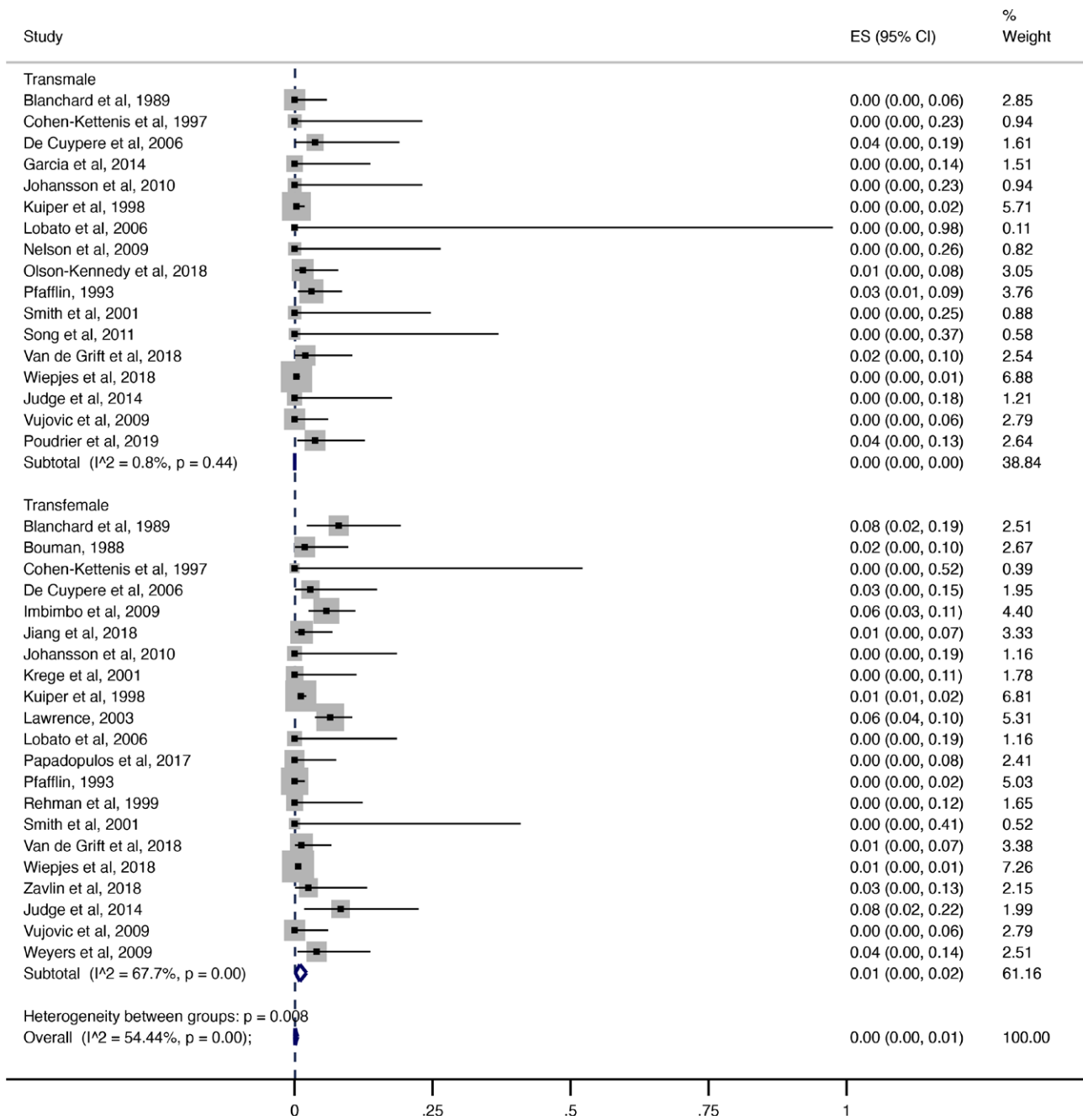


Fig. 3. Subgroup analysis of the prevalence of regret among TGNB individuals after gender affirmation surgery based on gender. ES, effect size.

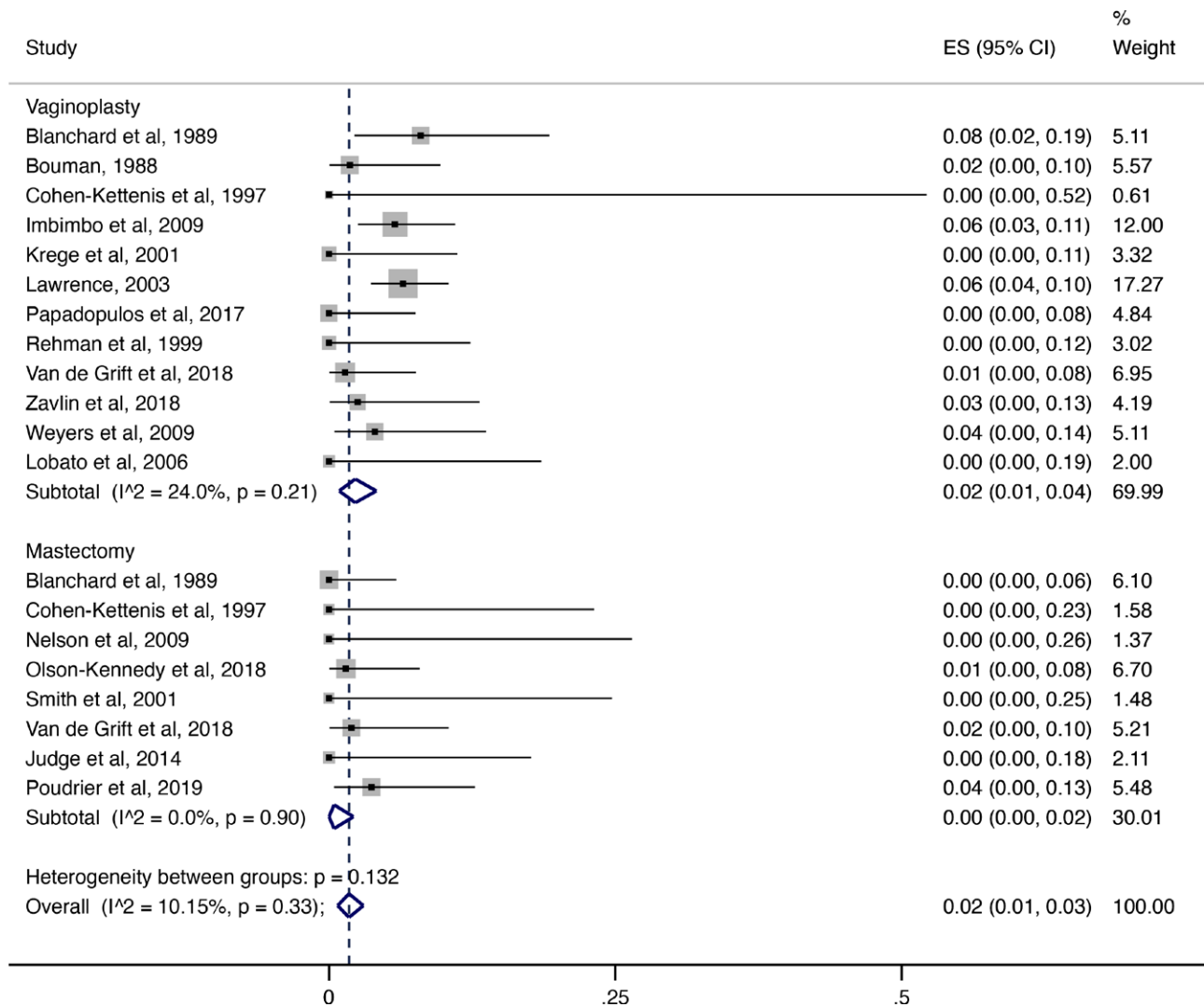


Fig. 4. Subgroup analysis of the prevalence of regret among TGNB individuals after gender affirmation surgery based on the type of surgery. ES, effect size.