

Stres Üriner İnkontinans  
Tedavisinde Benim Yöntemim En  
İyi  
***Mid Üretral ve Mini Slingler***

Dr. Burhan Coşkun



# EAU ya Göre

## Women with uncomplicated stress urinary incontinence

Recommendations for surgery for uncomplicated stress urinary incontinence in women	GR
Offer the mid-urethral sling to women with uncomplicated stress urinary incontinence as the preferred surgical intervention whenever available.	A
Warn women who are being offered a retropubic insertion of mid-urethral sling about the relatively higher risk of peri-operative complications compared to transobturator insertion.	A
Warn women who are being offered transobturator insertion of mid-urethral sling about the higher risk of pain and dyspareunia in the longer term.	A
Warn women who are being offered a single-incision sling that long-term efficacy remains uncertain.	A
Do a cystourethroscopy as part of the insertion of a mid-urethral sling.	C
Offer colposuspension (open or laparoscopic) or autologous fascial sling for women with stress urinary incontinence if mid-urethral sling cannot be considered.	A
Warn women undergoing autologous fascial sling that there is a high risk of voiding difficulty and the need to perform clean intermittent self-catheterisation; ensure they are willing and able to do so.	C
Inform older women with stress urinary incontinence about the increased risks associated with surgery, including the lower probability of success.	B
Inform women that any vaginal surgery may have an impact on sexual function.	B
Only offer new devices, for which there is no level 1 evidence base, as part of a structured research programme.	A*
Only offer adjustable mid-urethral sling as a primary surgical treatment for stress urinary incontinence as part of a structured research programme.	A*
Do not offer bulking agents to women who are seeking a permanent cure for stress urinary incontinence.	A*

\* Recommendation based on expert opinion.

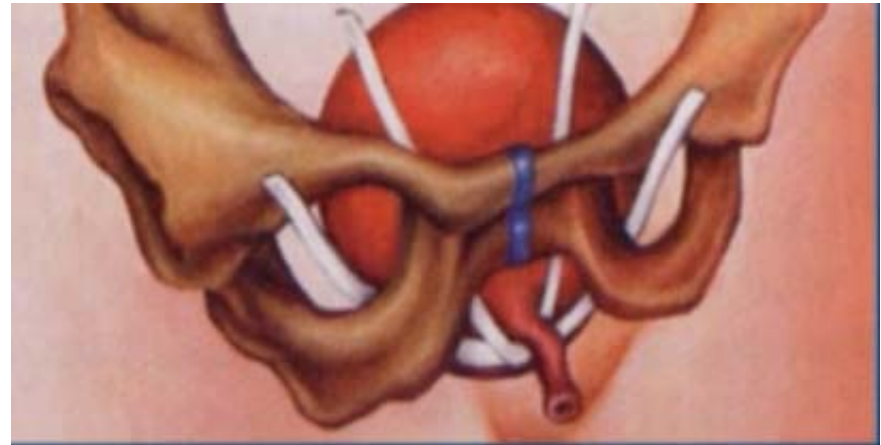
# AUA/SUFU ya göre

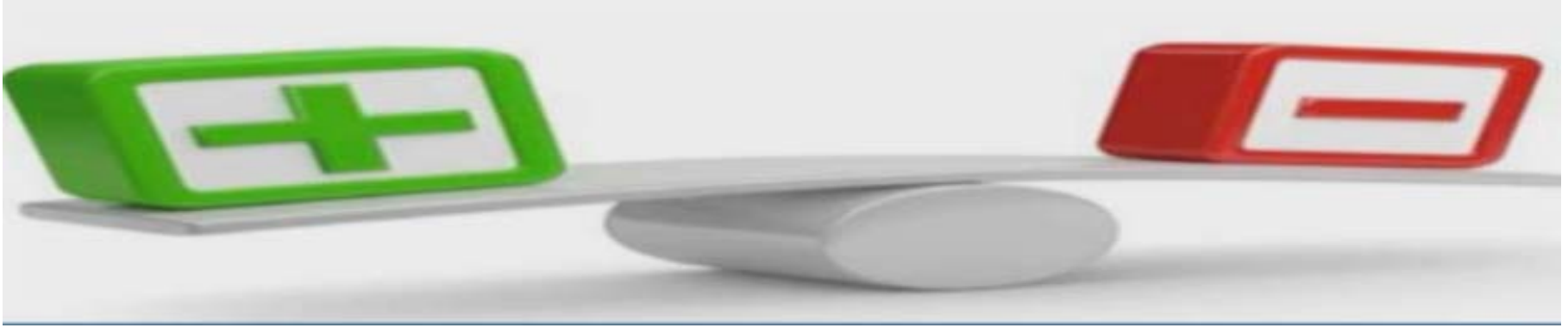
**Option: The five major types of procedures (injectables, laparoscopic suspensions, midurethral slings, pubovaginal slings and retropubic suspensions), although not equivalent, may be considered for the index patient.**

[Based on Panel consensus]

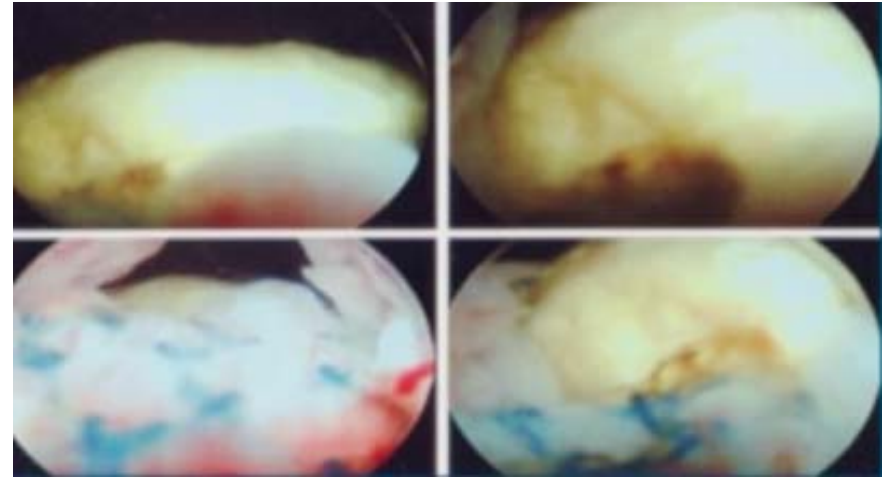
# MUS

- Retropubik (TVT)
- Obturator to (TOT)
- Minisling





- Etkinlik ile ilgili geniş data
- En uzun takip süresi
- MUS lerin etkisiz olduğunu gösteren bir data yok



- 3 yıl ve daha uzun takip sürelerini içeren çalışmalarda
  - Objektif kür %80
  - Düzeltme %90

# FDA ?

- 2011 – FDA "Update on Serious Complications Associated With Transvaginal Placement of Surgical Mesh for Pelvic Organ Prolapse." [Slings not mentioned]
  - Complications with POP kits "not rare"
  - Full Incision Slings at 1 year appear "effective"

- FDA uyarısı sadece POP onarımı ile ilgili



# MUS avantajları

- Standart malzeme kalitesi
- Otolog doku gerektirmez, morbidite daha azdır
- Operasyon süresi ve hastanede kalış daha kısadır

# Hangi hasta için iyi deęil

- İleri yaşı
- UUI
- Eşlik eden POP
- Düşük VLPP
- Obstruktif işeme semptomları
- Obezite
- Diyabet

# Retropubik iğne askıları

- Retropubik iğne askıları bugün için klavuzlarda inkontinans tedavisinde önerilmemektedir !
- Anterior vajinal duvar askısı orta dercede sistosele eşlik eden SUI durumunda SUI için fayda sağlayabilir.



## Pubovaginal sling materials and their outcomes

Ömer Bayrak<sup>1</sup>, David Osborn<sup>2</sup>, William Stuart Reynolds<sup>2</sup>, Roger Roman Dmochowski<sup>2</sup>

Bayrak et al.  
Pubovaginal sling materials and their outcomes

**Table 1. Pubovaginal sling materials and their advantages and disadvantages**

	<b>Used Materials</b>	<b>Advantages</b>	<b>Disadvantages</b>
Autologous Graft Materials	Rectus muscle Fascia lata Vaginal wall	* Maximum bio-compatibility * Negligible tissue reaction * Negligible urethral perforation * Highest success rates * Lower rates of complications	* Increased operation time * Increased suprapubic pain * Increased hospital stay * Risk of suprapubic seroma * Risk of suprapubic incisional hernia

# MUS Komplikasyonları

- Cerrahi müdahale gerektiren
  - Obstrüksiyon %2.3
  - Erozyon %1.8
  - Kronik ağrı %4.1

# PVS komplikasyonları

- İdrar yolu enfeksiyonu (%11),
- Mesane yaralanması (%4)
- Yara ile ilgili komplikasyonlar (%8).

AUA panel 2009

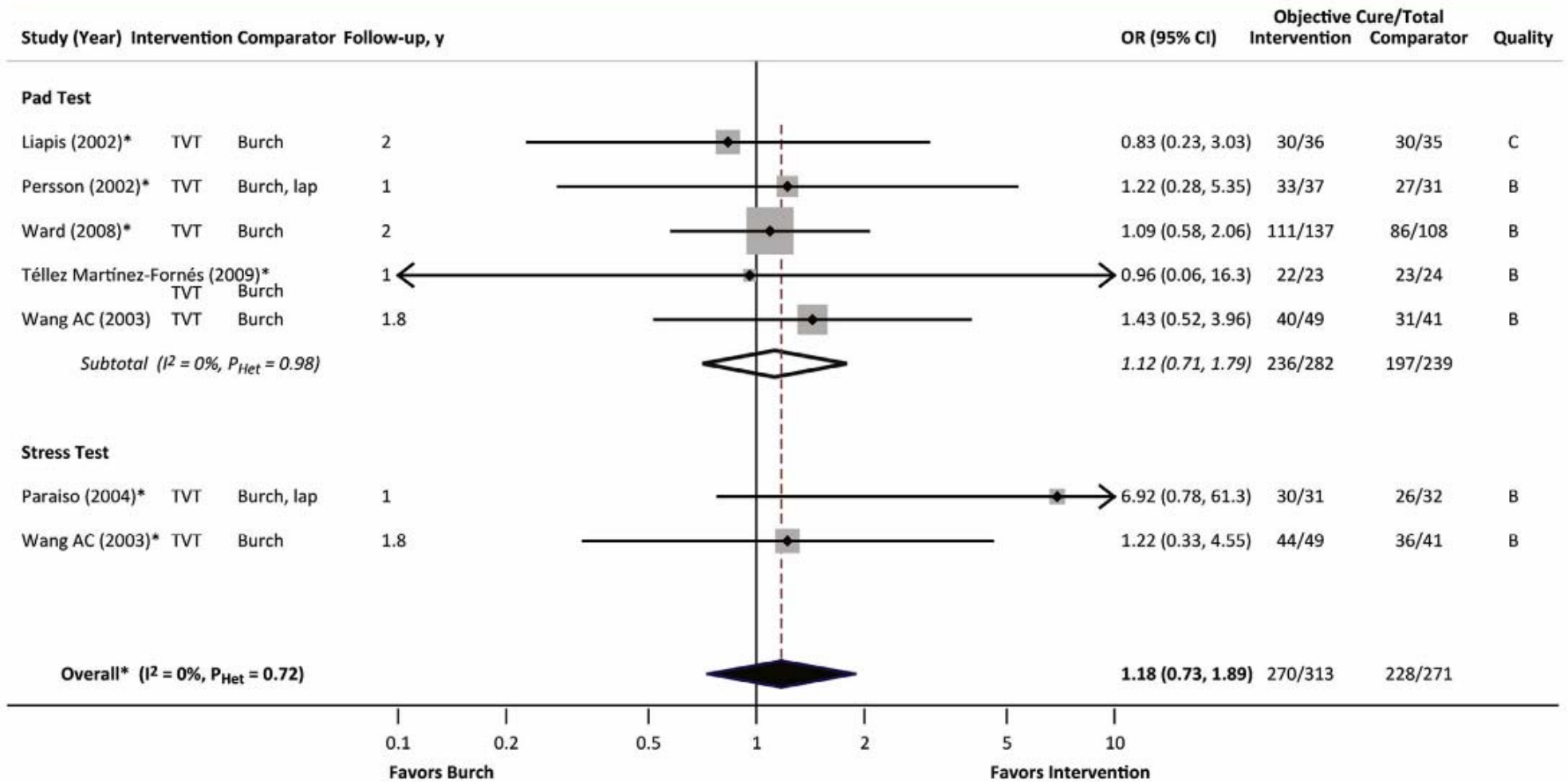
## UROGYNECOLOGY

**Sling surgery for stress urinary incontinence in women:  
a systematic review and metaanalysis**

Megan O. Schimpf, MD; David D. Rahn, MD; Thomas L. Wheeler, MD, MSPH; Minita Patel, MD, MS;  
Amanda B. White, MD; Francisco J. Orejuela, MD; Sherif A. El-Nashar, MBBCh, MS; Rebecca U. Margulies, MD;  
Jonathan L. Gleason, MD; Sarit O. Aschkenazi, MD; Mamta M. Mamik, MD; Renée M. Ward, MD;  
Ethan M. Balk, MD, MPH; Vivian W. Sung, MD, MPH; for the Society of Gynecologic Surgeons Systematic Review Group

**FIGURE 2**

**Metaanalysis for objective cure: MUS vs Burch urethropexy**





**FIGURE 5**

**Metaanalysis for objective cure: retropubic (retro) vs obturator midurethral slings**

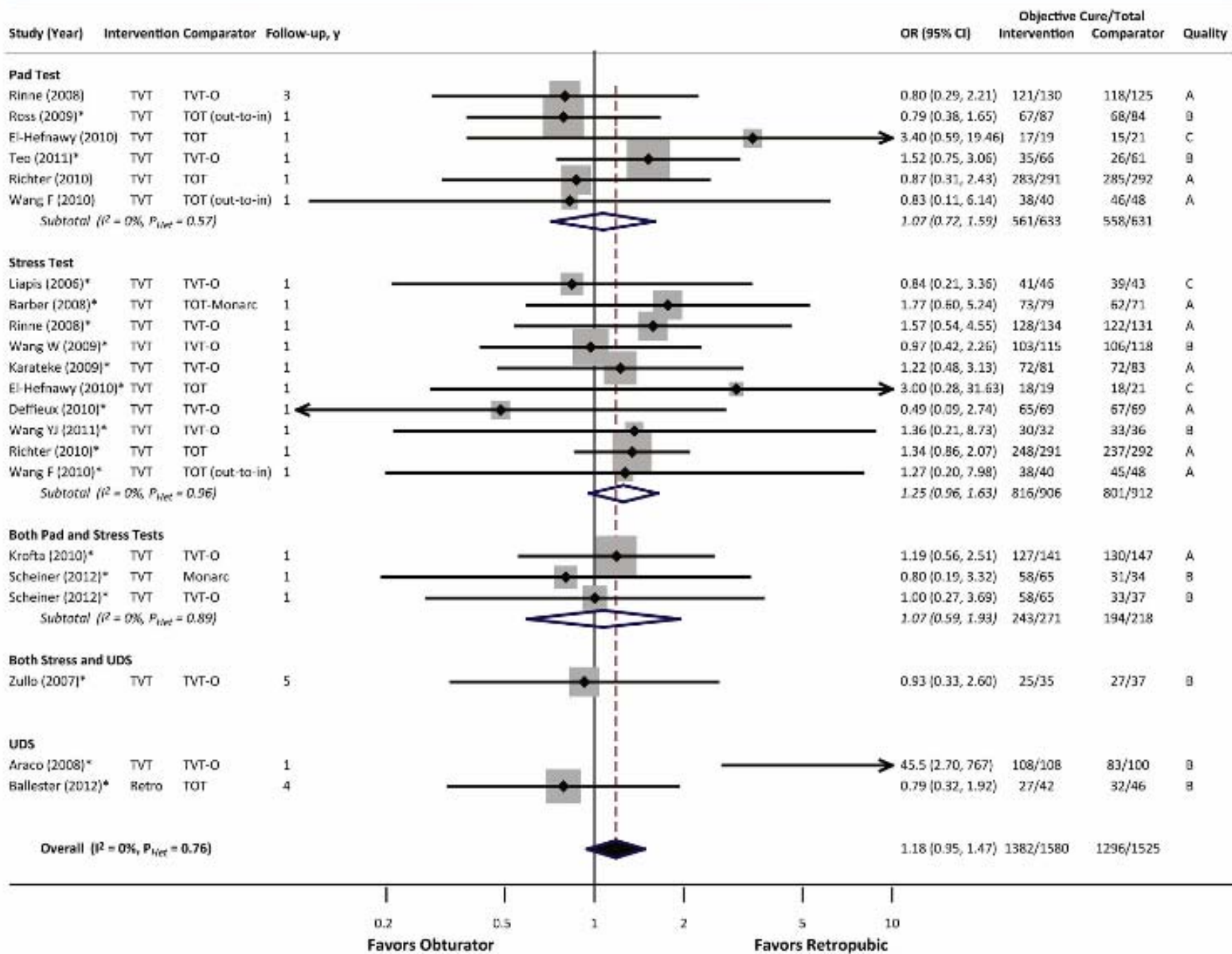


FIGURE 6

Metaanalysis for subjective cure: retropubic vs obturator midurethral slings

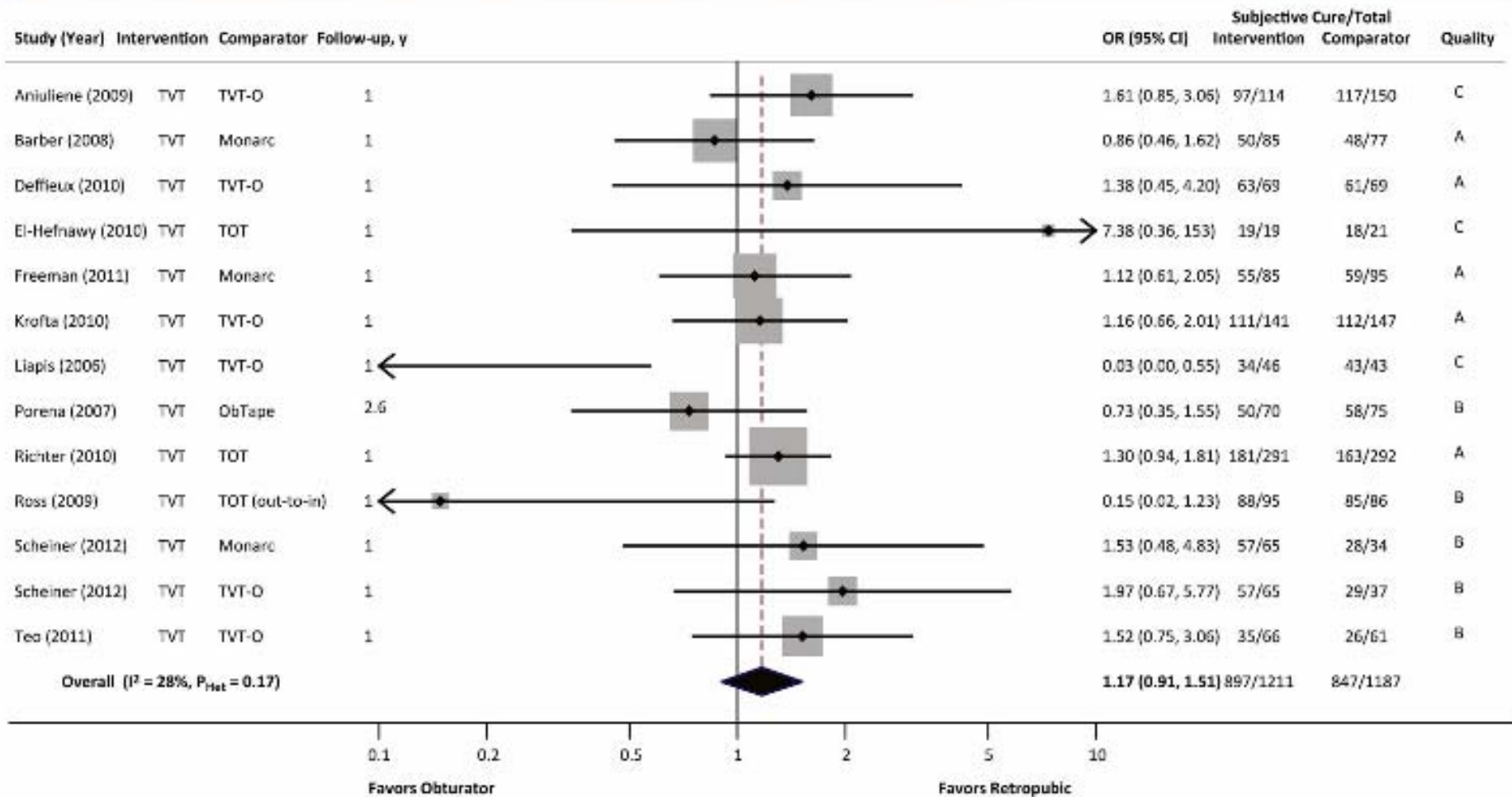
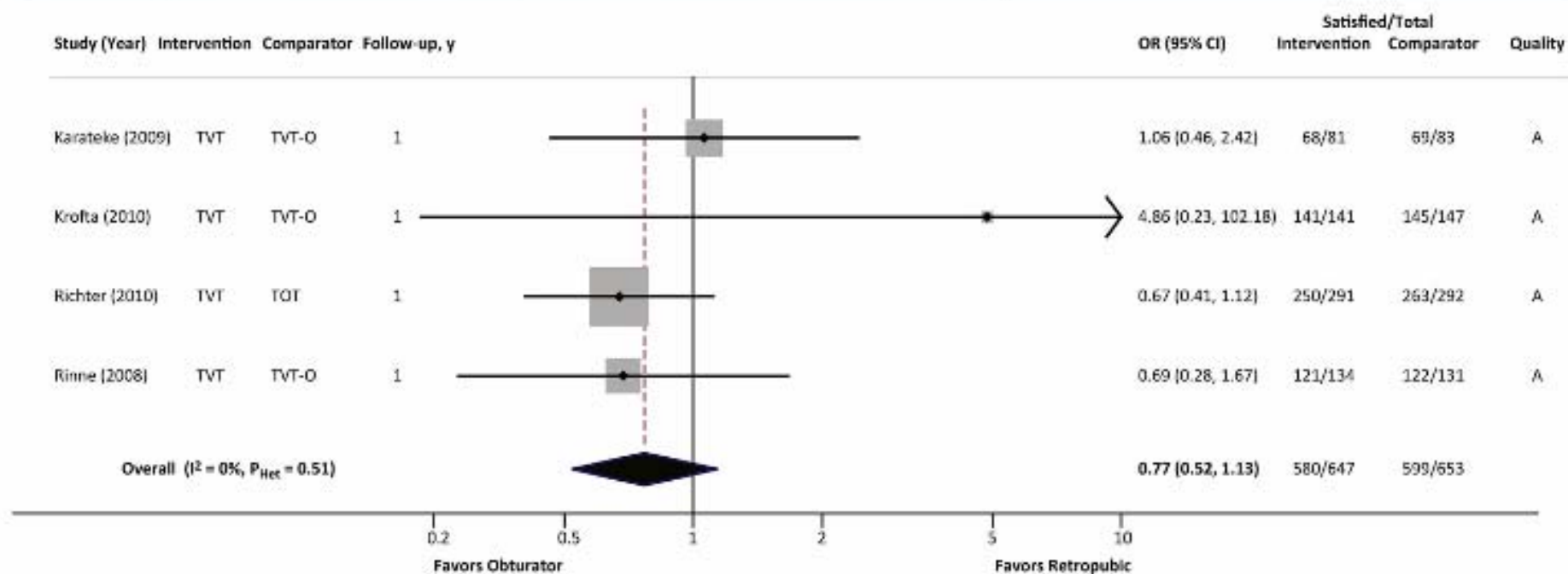


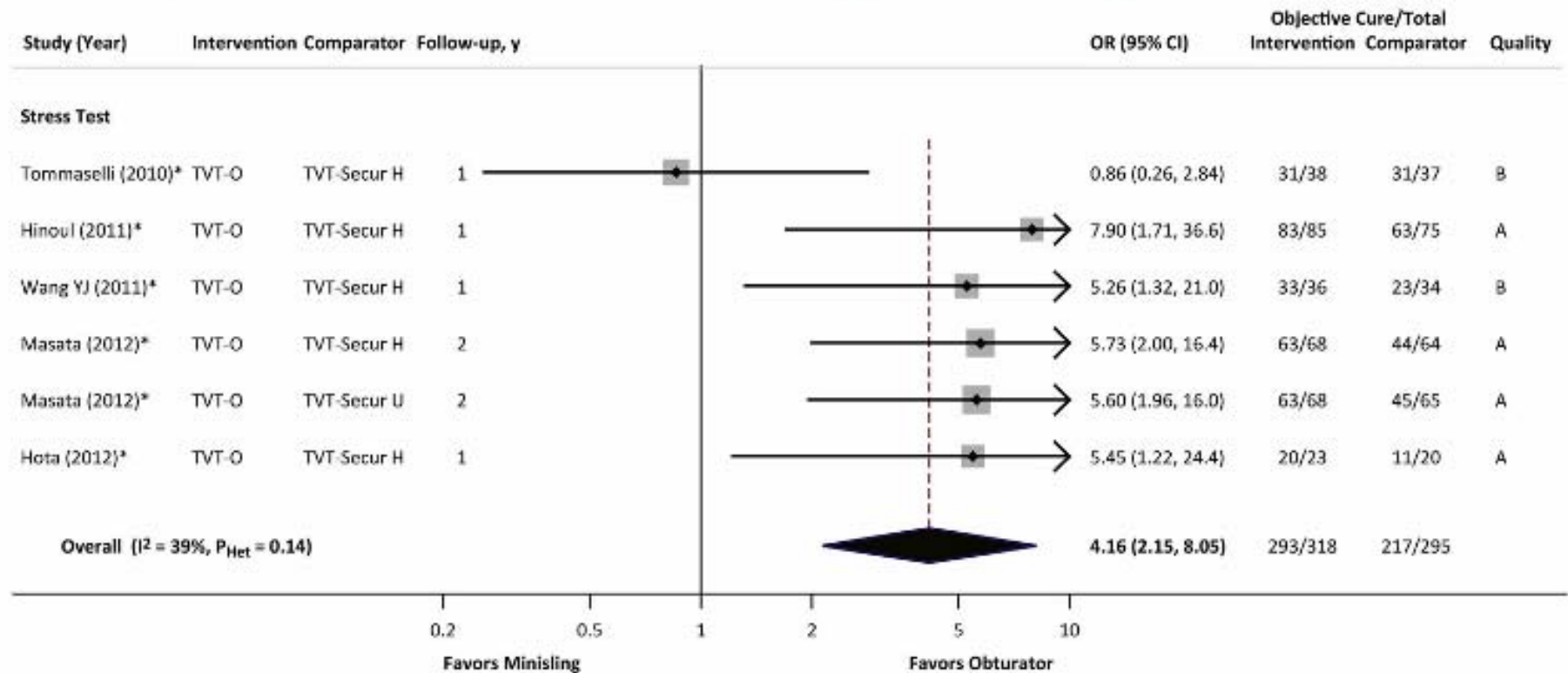
FIGURE 7

Metaanalysis for satisfaction: retropubic vs obturator midurethral slings



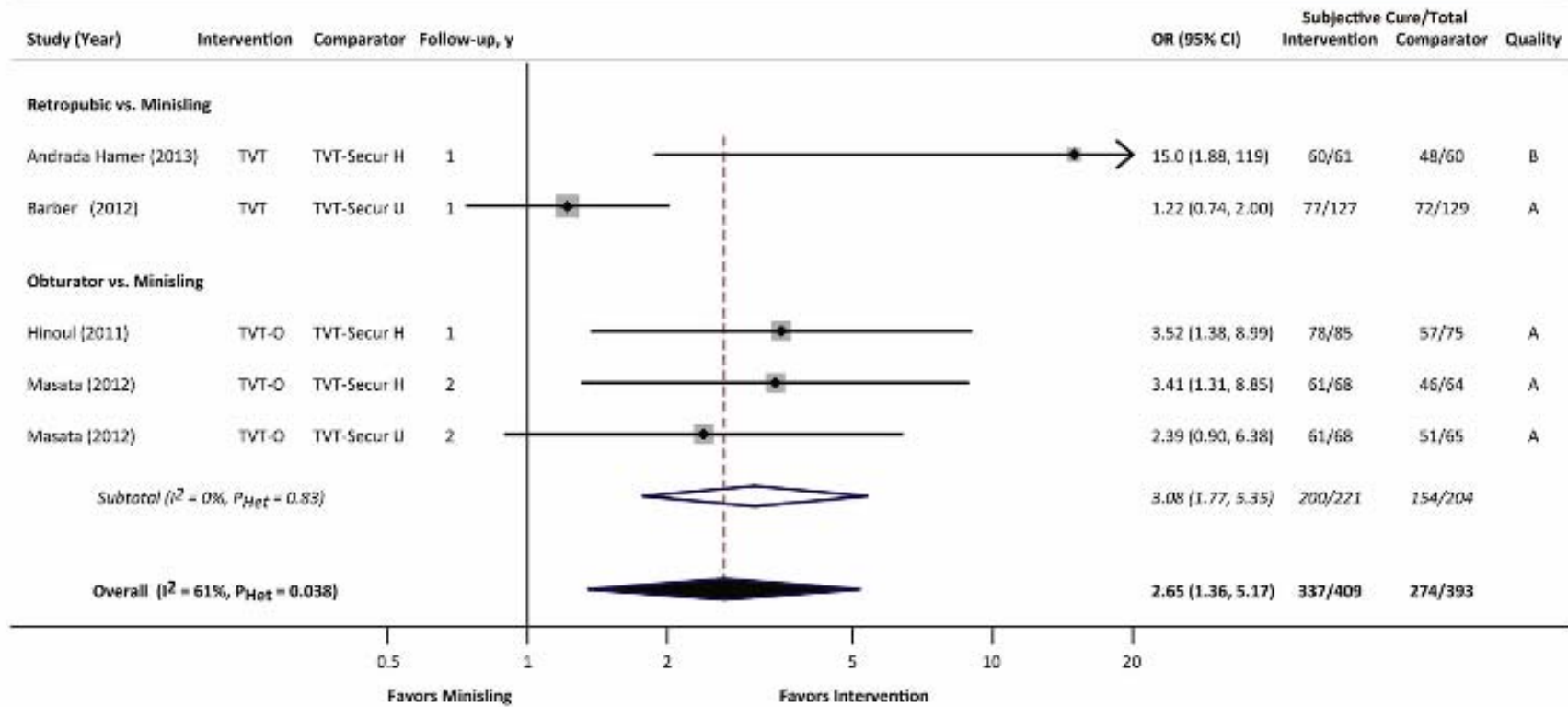
**FIGURE 8**

**Metaanalysis for objective cure: traditional midurethral sling (MUS) vs minisling**



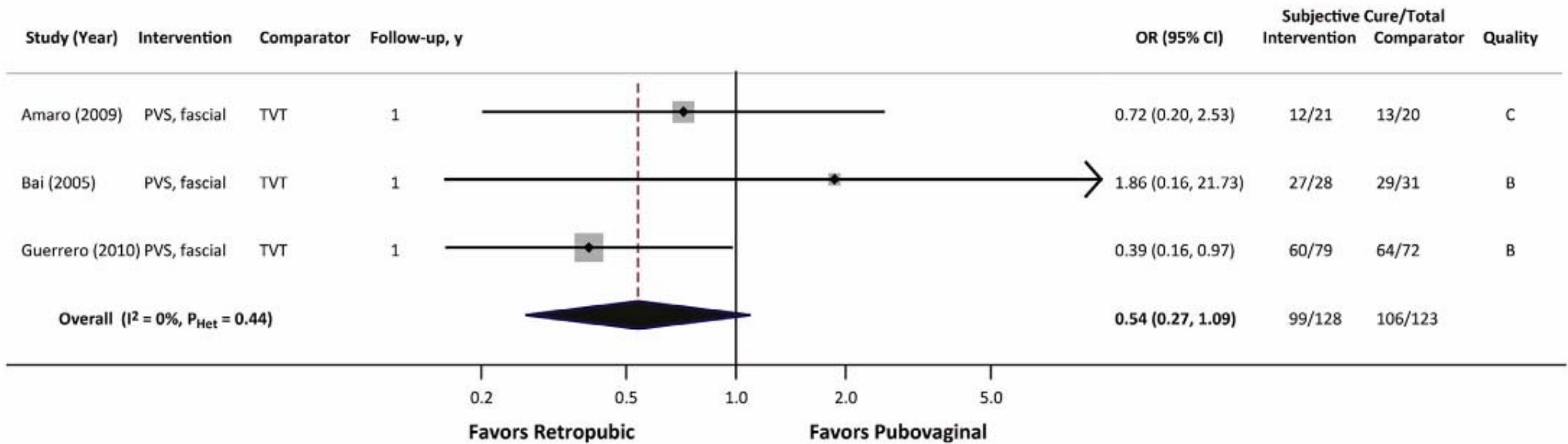
**FIGURE 9**

**Metaanalysis for subjective cure: traditional midurethral sling vs minisling**



**FIGURE 4**

**Metaanalysis for subjective cure: pubovaginal vs MUS**





**Table 1** | Long-term (follow-up duration >5 years) studies of SMUS effectiveness

Study characteristics	Patient characteristics	Mean follow-up duration (months)	Outcome Instrument	Outcomes*
<b>Prospective studies</b>				
Angjoli <i>et al.</i> (2010) <sup>20</sup> n=72	Outcomes of 69 patients with RP or TOT slings were evaluated; 4.1% were lost to follow up	60	ST, NVQ, <sup>†</sup> VAS <sup>‡</sup>	Objective cure reported in 71% and 73% in patients with RP or TOT slings, respectively; Subjective cure reported by 60% and 62% of patients with RP or TOT slings, respectively
Groutz <i>et al.</i> (2011) <sup>23</sup> n=60	Outcomes of 52 patients with RP slings were evaluated; 13.3% were lost to follow up	60	NVQ <sup>†</sup>	Subjective cure reported by 65% of patients
Groutz <i>et al.</i> (2011) <sup>27</sup> n=65	Outcomes of 61 patients with TOT slings were evaluated; 6.1% were lost to follow up	60	ST, NVQ <sup>†</sup>	Objective cure reported in 74% of patients, 8% had improved symptoms and 18% subjectively reported treatment failure
Cheng <i>et al.</i> (2012) <sup>17</sup> n=103	Outcomes of 100 patients with TOT slings were evaluated; 2.9% were lost to follow up	65	VUD, QOL, <sup>†</sup> VAS <sup>‡</sup>	Objective cure reported in 87.4% of patients; subjective cure reported by 78% of patients
Nilsson <i>et al.</i> (2013) <sup>16</sup> n=90	Outcomes of 58 patients with RP slings were evaluated; 23.3% were lost to follow up	201	ST, VQ <sup>†</sup>	Objective cure reported in 91.3% of patients; subjective cure reported by 87%
Serati <i>et al.</i> (2013) <sup>18</sup> n=191	Outcomes of 185 patients with TOT slings were evaluated; 3.1% were lost to follow up	60	ST, VQ <sup>†</sup>	Objective cure reported in 90.3% of patients; subjective cure reported by 90.8%
Svenningsen <i>et al.</i> (2013) <sup>22</sup> n=603	Outcomes of 483 patients with RP slings were evaluated; 19.9% were lost to follow up	120	Exercise + PT, VQ, <sup>†</sup> NVQ <sup>†</sup>	Objective cure reported in 89.9% of patients; subjective cure reported in 76.1% of patients; 18% had improved symptoms; 5.9% had treatment failure
<b>Retrospective studies</b>				
Ankardal <i>et al.</i> (2006) <sup>29</sup> n=707	Outcomes of 271 patients with RP slings were evaluated; 5.0% were lost to follow up	60 <sup>§</sup>	ST, 48 h PT (NVQ, <sup>†</sup> VAS <sup>‡</sup> )	Objective cure reported in 83% of patients; subjective cure reported by 73.1% of patients; 15.9% had improved symptoms; 11% had treatment failure
Olsson <i>et al.</i> (2010) <sup>21</sup> n=147	Outcomes of 104 patients with RP slings were evaluated; 15.6% were lost to follow up	138	ST	Objective cure reported in 84% of patients; subjective cure reported by 77% of patients; 18% had improved symptoms; 5% had treatment failure
Li <i>et al.</i> (2012) <sup>10</sup> n=55	Outcomes of patients with RP slings were evaluated; percentage of patients lost to follow up not reported	81.85	1 h PT (NVQ <sup>†</sup> )	Objective cure reported in 85.5% of patients; subjective cure reported in 74.6% of patients; 7% had improved symptoms; 25.6% had treatment failure
Athanasidou <i>et al.</i> (2014) <sup>28</sup> n=145	Outcomes of 124 patients with TOT slings were evaluated; 14.4% were lost to follow up	90.3	ST (VQ <sup>†</sup> )	Objective cure reported in 81.5% of patients; subjective cure reported in 83.1% of patients; 3.2% had improved symptoms; 13.7% had treatment failure

\*Owing to a lack of uniformity in reporting efficacy (improved and failed), improvement and failure were assumed to be based on subjective responses. Incidence of failure was calculated by subtracting the sum of subjective cured and improved responses from 100%. Improved patients were mutually exclusive to cured patients reported. <sup>†</sup>Indicates a subjective outcome instrument. <sup>‡</sup>Indicates actual, not mean follow-up duration. Abbreviations: NVQ, nonvalidated questionnaire; PT, pad-weight test; QOL, quality of life; RP, retropubic tension-free transvaginal mesh tape; SMUS, synthetic midurethral slings; ST, cough or valsalva stress test; TOT, transobturator tape; VAS, visual analogue scale; VQ, validated questionnaire; VUD, videourodynamics.

**Table 2** | Complications of either RP or TOT slings

Complication	n	Complications (% of patients)	Incidence (mean; range)
<b>General complications</b>			
Death within 30 days*	7,762	0 (0.0)	0.0
Urethral obstruction/voiding dysfunction	25,586	1,403 (5.5)	7.3; 0–33.9
Urethral obstruction requiring surgery	9,375	301 (3.2)	2.3; 0–21.3
Urinary infections	13,296	598 (4.5)	7.3; 0–39.1
Pain (within 6 weeks)	5,097	374 (7.3)	7.9; 0–33.3
Neurologic symptoms (within 6 weeks)	1,769	42 (2.4)	1.2; 0–10.3
De novo OAB	14,765	1,512 (10.2)	10.9; 0–48.1
<b>Pelvic organ perforation</b>			
In total	20,630	681 (3.3)	3.5; 0–16.1
Bladder	19,411	579 (3.0)	2.9; 0–16.1
Vaginal	5,521	91 (1.6)	1.4; 0–14.1
Urethral	4,541	6 (0.1)	0.0; 0–1.5
Bowel	3,820	4 (0.1)	0.0; 0–1.7
Ureteral	3,820	1 (0.0)	0.0; 0–1.3
<b>Mesh exposure/erosion/extrusion</b>			
In total	17,520	475 (2.7)	2.5; 0–26.1
Treated conservatively	15,403	112 (0.7)	0.9; 0–7.1
Vaginal	13,496	78 (0.6)	0.7; 0–7.1
Bladder	13,496	5 (0.0)	0.0; 0–5.6
Urethral	13,496	0 (0.0)	0.0
Requiring surgery	16,619	333 (2.0)	1.8; 0–26.1
Vaginal	13,705	235 (1.7)	1.5; 0–15.9
Bladder	13,393	29 (0.2) <sup>†</sup>	0.2; 0–15.2
Urethral	13,628	11 (0.1)	0.2; 0–16.7
<b>Longer-term complications</b>			
Refractory pain (>6 weeks)	7,084	247 (3.5)	4.1; 0–30.5
Neurologic symptoms (>6 weeks)	2,449	51 (2.0)	1.0; 0–10.6
Fistulas	710	2 (0.3)	0.3; 0–1.1



**Table 3** | Complications of RP slings

Complication	n	Complications (% of patients)	Incidence (mean; range)
<b>General complications</b>			
Death within 30 days	3,499	0 (0.0)	0.0
Urethral obstruction/voiding dysfunction	16,301	704 (2.8)	8.8; 0–32.7
Requiring surgery	6,875	223 (2.4)	2.7; 0–8.9
Urinary infections	8,936	327 (3.7)	8.6; 0–39.1
Pain (within 6 weeks)	2,133	111 (5.2)	4.5; 0–23.1
Neurologic symptoms (within 6 weeks)	520	14 (2.7)	1.6; 0–5.0
De novo OAB	7,989	925 (11.6)	11.4; 0–29.4
<b>Pelvic organ perforation</b>			
In total	13,164	498 (3.8)	4.8; 0–14.3
Bladder	12,929	480 (3.7)	4.6; 0–14.3
Vaginal	763	11 (1.4)	1.0; 0–2.1
Urethral	1,224	4 (0.3)	0.0; 0–1.5
Bowel	800	4 (0.5)	0.0; 0–1.7
Ureteral	800	0 (0.0)	0.0
<b>Mesh exposure/erosion/extrusion</b>			
In total	8,303	179 (2.2)	2.3; 0–26.1
Treated conservatively	7,168	44 (0.6)	0.1; 0–5.6
Vaginal	6,193	22 (0.4)	0.0; 0–4.6
Bladder	6,193	5 (0.1)	0.0; 0–5.6
Urethral	6,193	0 (0.0)	0.0
Requiring surgery	7,902	135 (1.7)	1.6; 0–26.1
Vaginal	6,621	79 (1.2)	1.0; 0–10.9
Bladder	6,386	26 (0.4)	1.4; 0–15.2
Urethral	6,621	4 (0.1)	0.3; 0–16.7
<b>Longer-term complications</b>			
Refractory pain (>6 weeks)	2,328	42 (1.8)	2.0; 0–7.9
Neurologic symptoms (>6 weeks)	908	19 (2.1)	1.0; 0–5.2
Fistulas	388	1 (0.2)	0.4; 0–0.7

Abbreviations: OAB, overactive bladder; RP, retropubic tension-free transvaginal mesh tape.

# Sonuç

- MUS
  - Kolay
  - Etkili
  - Güvenilir
  - Sonuçları tekrarlanabilirdir.