

Hinojosa-Gonzalez et al. Comparative effectiveness of en-bloc resection techniques vs. conventional transurethral resection for non-muscle-invasive bladder cancer: A systematic review and meta-analysis

APPENDIX

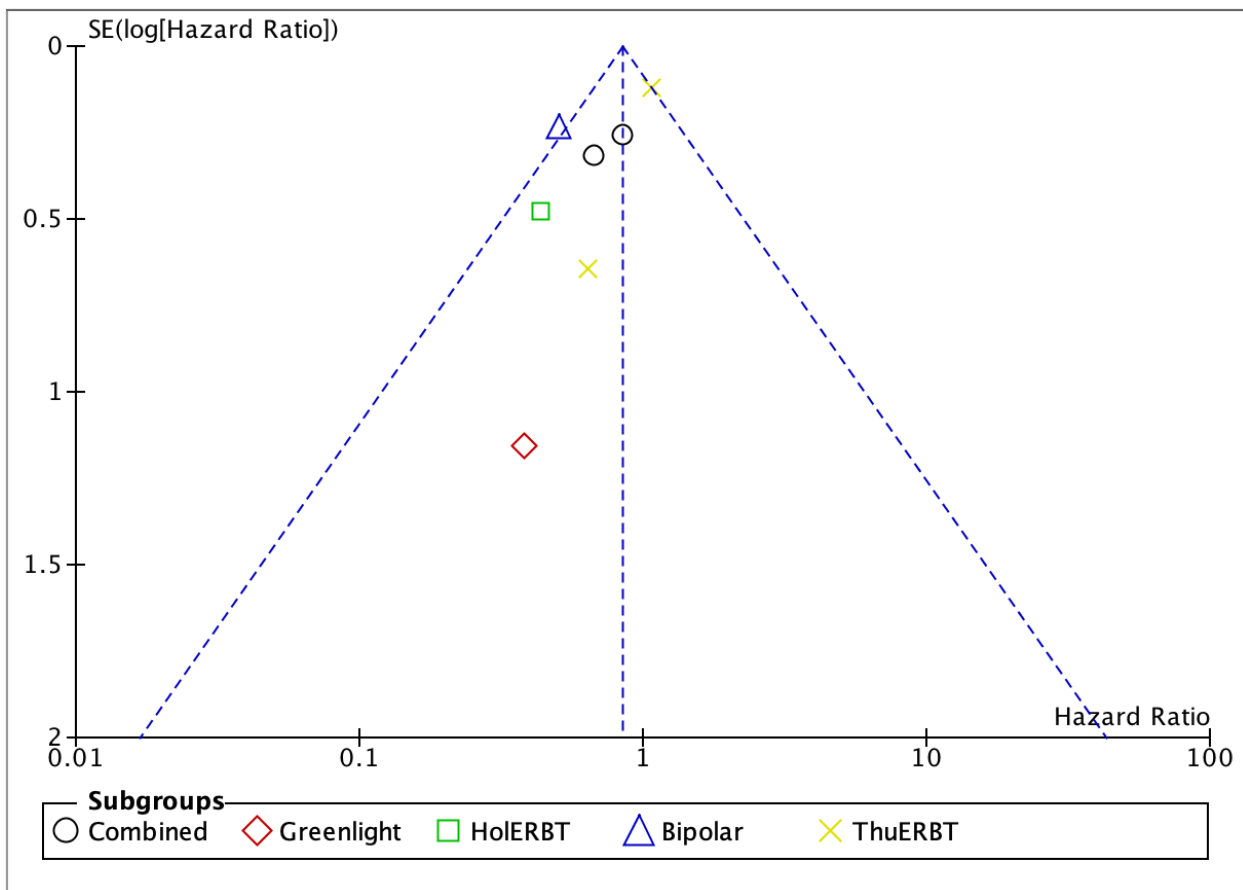
Supplementary Figure 1.

Study ID	D1	D2	D3	D4	D5	Overall
Liu H 2013	+	+	-	+	+	!
Zhang XR 2015	+	!	+	+	+	!
Chen X 2014	+	+	+	+	+	+
Huang JH 2016	+	+	+	+	!	!
Gakis G 2020	+	-	-	+	+	-
Hashem A 2020	+	+	+	+	+	+
Fan J 2021	+	+	-	+	+	-
Gallioli A 2022	+	+	+	+	+	+
D'Andrea D 2023	+	!	+	+	+	!
Teoh JY 2024	+	+	+	+	+	+

+	Low risk
!	Some concerns
-	High risk

D1	Randomisation process
D2	Deviations from the intended interventions
D3	Missing outcome data
D4	Measurement of the outcome
D5	Selection of the reported result

Supplementary Figure 2.



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Supplementary Table 1. Summary of the included studies

Author year	Country	Design	Intervention	N	Age, mean±SD	Tumor size, cm±SD	FU, mos	Resection time, min±SD	Operative time, min±SD	Catheter time, days±SD	Hospital stay, days±SD	Bladder perforation, %	Obturator nerve reflex, %	Re-TURBT, %	Detrusor muscle present, %	RFS	Surgeon characteristics	Tumor grade category, n
Chen, 2014	China	RCT	Thulium: 2-micron wave laser system	71	60.3±1.08	2.6±1.4	18	NR	56.5±37.4	3.1±3.7	6±3.6	0	0	NR	NR	0.63 [0.18, 2.24]	NR	PUNLMP: 5 Low-grade: 43 High-grade: 23
			TURBT	71	58.3±1.5	2.3±1.2		NR	41±29.4	2.2±2.7	5.8±2.7	0	25.4	NR	NR			PUNLMP: 9 Low-grade: 45 High-grade: 17
Liu, 2013	China	RCT	Thulium: 2-micron wave laser system	64	67.1±8.3	1.31±0.23	36	13.6±4.6	48.2±15.8	2.34±0.43	3.51±0.34	0	0	NR	NR	NR	All procedures were performed by 1 surgeon	PUNLMP: 11 Low-grade: 46 High-grade: 7
			TURBT	56	66.3±9.8	1.28±0.31		12.4±5.2	45.6±13.5	4.21±0.92	5.42±0.65	8.9	17.9	NR	NR			PUNLMP: 10 Low-grade: 41 High-grade: 5
Zhang, 2015	China	RCT	Thulium: 2-micron wave laser system	149	NR	<3 cm: 34.2%, >3 cm: 65.8%	36	NR	31.5±12.8	NR	NR	0	0	11.4	87.9	1.06 [0.84-1.35]	NR	G0: 87 G1: 54 G2: 8
			TURBT	143	NR	<3 cm: 33.6%, >3 cm: 66.4%		NR	28.4±13.2	NR	NR	4.2	4.2	18.9	93.7			G0: 75 G1: 60 G2: 8

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Gakis, 2020	Germany	RCT	Hydrodissection	56	66.8±1.1	≤ 3cm: 95.8%, >3cm: 4.2%	12	37.1±22.7	NR	2.0±0.8	2.6±1.4	1.8	NR	19	73.2	NR	NR but to qualify surgeons had to undergo specific training at ex vivo working stations using porcine bladder models with a minimum of three resections	Grade 1: 20 Grade 2: 25 Grade 3: 9 Grade X: 2
			TURBT	59	70.2±1.2	≤ 3cm: 80.4%, >3cm: 19.6%		22.4±14.5	NR	2.0±1.4	2.5±0.8	1.7	NR	23	61.0			Grade 1: 15 Grade 2: 23 Grade 3: 17 Grade X: 4
Hashem, 2020	Egypt	RCT	HoIERBT	50	60.4±1.9	3.2±1.1	36	15.0±6.7	NR	2.0±4.4	2.0±2.2	0	0	NR	98.0	0.43 [0.17, 1.1]	All procedures were performed by 3 different surgeons.	PUNLMP: 0 Low-grade: 28 High-grade: 16
			TURBT	50	61.1±1.3	2.9±1.4		22.8±12.3	NR	2.0±4.4	2.0±2.2	12.0	24.0	NR	62.0			PUNLMP: 1 Low-grade: 26 High-grade: 22
Fan, 2021	China	RCT	Greenlight	116	60±5	<2 cm: 78.9%, ≥2 cm: 21.1%	48	4.47±2.78	7.6±5.5	2.33±0.75	2.0±2.0	0	0	NR	89.7	0.40 [0.04, 3.65]	All procedures were performed by 3 different surgeons.	PUNLMP: 5 Low-grade: 74 High-grade: 37
			TURBT	117	57±5	<2 cm: 75.0%, ≥2 cm: 25.0%		3.40±2.48	6.5±4.9	2.27±0.60	2.0±2.0	0.85	7.7	NR	71.8			PUNLMP: 10 Low-grade: 77 High-grade: 30

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Gallioli, 2022	Spain	RCT	Combined TUEB Techniques	140	71.0±14.2	<1 cm: 47.0%, 1-3 cm: 53.0%	36	NR	30.0±15.0	2.0±1.50	1.77±0.52	20	11	3.6	95	0.67 [0.36, 1.24]	All procedures were performed by 11 surgeons.	Low-grade: 70 High-grade: 55 In situ: 4 Other: 11
			TURBT	108	72.3±10.5	<1 cm: 57.0%, 1-3 cm: 43.0%		NR	28.3±11.3	2.33±0.75	1.77±0.53	17	6.5	2.8	94			Low-grade: 56 High-grade: 41 In situ: 4 Other: 7
D'Andrea, 2023	Multicenter	RCT	Combined TUEB techniques	178	65.0±12.7	1.63±0.75	40	NR	28.0±13.5	NR	NR	5.6	8.4	14.6	81	0.84 [0.51, 1.40]	Maximum of 2 surgeons per center.	PNLMP: 8 Low-grade: 129 High-grade: 68 NR: 14
			TURBT	179	68.7±12.0	1.73±1.12		NR	25.7±13.5	NR	NR	12.3	15.6	19.0	71			PNLMP: 5 Low-grade: 117 High-grade: 93 NR: 18
Balan, 2018	Romania	RCT	Bipolar dissection	45	64.7	1.82	12	NR	13.4	1.9	2.3	NR	4.4	NR	100	NR	NR	NR
			TURBT	45	66.1	1.69		NR	19.7	2.8	3.1	NR	11.1	NR	100			
Teoh, 2024	China	RCT	Bipolar dissection	143	70.3±11.2	1.5±0.75	12	NR	31.0±18.7	NR	2.0±2.0	NR	26	26	83	0.51 [0.32, 0.81]	NR but had to have a minimum experience of 50 cases.	PUNLMP: 6 Low-grade: 92 High-grade: 45
			TURBT	133	70.0±12.7	1.67±0.75		NR	22.3±11.2	NR	2.33±0.75	NR	19	22	84			PUNLMP: 3 Low-grade: 93 High-grade: 37

FU: followup; HoLERBT: holmium laser en-bloc resection; mos: months; NR: not reported; PUNLMP: papillary urothelial neoplasm of low malignant potential; RCT: randomized controlled trial; RFS: recurrence-free survival; SD: standard deviation; TUEB: transurethral en-bloc resection; TURBT: transurethral resection of bladder tumor.

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