Table 5 Long-term outcomes of SBRT *vs.* surgery in older patients

Ordered by extent of resection, degree of confidence that results reflect the effect of the treatment, stage, age

1st author, year (reference)	Study characteristics						Adjustment for confounding								Confid RE Tmt effect	f/u (mo) Surg/SBRT	Adjusted % 5-yr OS SBRT *vs.* Surg			Adjusted % 5-yr LCSS SBRT *vs.* Surg		
	Source	Yrs	n	Stage [a]	Age	Other	Demogr F	CoMorbid	Hi stage	Time span	Q settings	Q treatmt	Fav tumor	Statistical methods	# adj for/ subsets			SBRT	Surg	HR	SBRT	Surg	HR
SBRT *vs.* lobectomy																							
Chi 2019 (42)	NCDB	04-15	3,796	clA	≥75	CC =0								MV, PM	19/4	H	-	-	-	.93	-	-	-
Razi 2021 (6)	NCDB	04-15	9,250	cI	≥80	CC =0 [b]								MV, PM	14/4	H	42/31	-	-	1.38	-	-	-
Paul 2016 (115)	SEER	07-12	1,286 [c]	I-IIA [d]	≥65	VATS [e]								PM	11/5	H	35	24	**50**	1.92	79	**88**	2.1 [f]
Paul 2016 (115)	SEER	07-12	1,332 [c]	I-IIA [d]	≥65	Open [e]								PM	11/5	H	35	-	-	1.7	-	-	1.44 [f]
Shirvani 2014 (11)	SEER	03-09	502 [c]	cI-IIA	≥65									MV, PM	8/4	M	-	[59] [g]	**[65]** [g]	1.01	[72] [g]	**[82]** [g]	1
Detilion 2019 (67)	Dutch Reg	10-15	318 [c]	cI-IIA	≥65	VATS								PM	14/1	M	35/32	29	**58**	2.6 [h]	-	-	-
Bryant 2018 (9)	VA	06-15	1,152	cI-IIA	>70									MV	12/2	M	35/18	-	-	-	-	-	1.31
Dong 2019 (69)	China x1	12-17	70 [c]	cI-IIIA	≥70	+SL								PM	10	M	50/36	60	**73**	-	75	**82**	-
Wang 2016 (70)	China x1	02-10	70 [c]	cI-IIA	≥65	+SL								PM	8	L	59	47	**68**	>1 [i]	58	**68**	>1 [i]
Shirvani 2012 (12)	SEER	01-07	198 [c]	cI-IIA	>65									MV, PM	10	L	-	[51] [g]	**[58]** [g]	1.41	[61] [g]	[70] [g]	1
Palma 2011 (116)	ACR	05-07	120 [c]	cI_IIA	≥75	+SL [j]								PM	4/1	VL	43	[42] [g]	**[60]** [g]	>1 [i]	-	-	-
SBRT *vs.* segmentectomy																							
Paul 2016 (115)	SEER	07-12	96 [c]	IA1,2 [d]	≥65	VATS								PM	11/5	H	35	-	-	2.09	-	-	1.43 [f]
Ezer 2015 (117)	SEER	02-09	906	I-IIA [d]	≥65									Px4	14/6	H	38/27	-	-	1.55	-	-	1.8
SBRT *vs.* sublobar resection																							
Chi 2019 (42)	NCDB	04-15	1,571	clA	≥75	CC =0								MV, PM	19/4	H	-	-	-	.85	-	-	-
Paul 2016 (115)	SEER	07-12	304 [c]	IA1,2 [d]	≥65	Open								PM	11/5	H	35	-	-	1.69	-	-	1.38 [f]
Ezer 2015 (117)	SEER	02-09	1,902	IA [d]	≥65									Px4	14/6	H	38/27	-	-	1.21	-	-	1.38
Ezer 2015 (117)	SEER	02-09	341	IB-IIA [d]	≥65									Px4	14/6	H	38/27	-	-	1.18	-	-	1.62
Ezer 2015 (117)	SEER	02-09	2,243	I-IIA [d]	≥65									Px4	14/6	H	38/27	-	-	1.19	-	-	1.46
Ezer 2015 (117)	SEER	02-09	1,177	I-IIA [d]	≥75									Px4	14/6	H	38/27	-	-	1.24	-	-	1.49
Tamura 2019 (68)	Japan x2	03-13	72 [c]	clA1,2	~78 [k]									PM	10/1	M	43/41	67	**72**	-	87	85	-
Tamura 2019 (68)	Japan x2	03-13	84 [c]	clA3-IIA	~78 [k]									PM	10/1	M	43/41	40	**63**	>1 [i]	49	**85**	>1 [i]
Tamura 2019 (68)	Japan x2	03-13	156 [c]	cI-IIA	~78 [k]									PM	10/1	M	43/41	70	**75**	-	76	**90**	>1 [i]
Bryant 2018 (9)	VA	06-15	520	cI-IIA	>70									MV	12/2	M	31/18	-	-	-	-	-	1.89
Shirvani 2012 (12)	SEER	01-07	224 [c]	cI-IIA	>65									MV, PM	10	L	-	[53] [g]	**[57]** [g]	1.22	[62] [g]	**[72]** [g]	.47
SBRT *vs.* wedge resection																							
Paul 2016 (115)	SEER	07-12	402 [c]	IA1,2 [d]	≥65	VATS								PM	11/5	H	35	52	**68**	1.8	83	**86**	1.32 [f]
Ezer 2015 (117)	SEER	02-09	1,699	I-IIA [d]	≥65									Px4	14/6	H	38/27	-	-	1.22	-	-	1.45
Yerokun 2017 (58)	NCDB	08-11	638 [c]	clA1,2	≥80									PM	10/4	M	36	20	**41**	>1 [i]	-	-	-

Inclusion criteria: studies with multivariable or propensity adjustment of SBRT *vs.* surgery, 2000–21, with >50 pts per arm, focusing specifically on older patients. The HR reference is surgery, i.e., HR >1 reflects worse outcome compared with surgery. Bold highlights better outcome (>2-point difference); Light green highlights statistically significant differences; Red font highlights follow-up <24 months in at least one arm.

[a], 8th edition stage classification; [b], also recommended to have surgery, but refused; [c], propensity matched pairs (total); [d], "best stage," i.e., mixture of clinical (nonsurgical patients) and pathologic stage (surgical patients); [e], includes lobectomy + sublobar resections; [f], cancer specific survival (not specifically lung cancer); [g] 3-year survival (in parentheses because not comparable to 5-year OS); [h], HR for period beyond 15 months; [i], direction of trend is clear but explicit HR not reported; [j], ≤20% sublobar resections; [k], average age 78 in each arm, also Charlson ≥2 in 72% in each arm.

ACR, Amsterdam Cancer Registry; CC =0, only Charlson comorbidity category of 0 included; f/u, median follow-up duration of cohort; HR, hazard ratio; LCSS, lung cancer specific survival; NCDB, US national cancer database; OS, overall survival; SBRT, stereotactic body radiotherapy; SEER, Surveillance, Epidemiology, and End Results database; SL, sublobar resection; Surg, surgical resection; VATS, video-assisted thoracic surgery; VA, US Veterans Health Administration system database, Yrs, years.

Legend for Adjustment for Confounding: Demogr F, demographic factors (age, sex, socioeconomic); Comorbid, comorbidities; Hi Stage, occult stage inaccuracy due to differences in extent of assessment; Time Span, adjustment for changes during the study period or differential use of the interventions; Q settings, discrepancy in the facilities or settings performing the interventions; Q Treatmt, quality of the treatment (e.g. margin distance, adjuvant therapy); Fav Tumor, selection of less aggressive tumors for an intervention; Statistical methods, methods used to adjust for confounding; Subset, additional subset or sensitivity analyses; # adj for, number of factors adjusted for; Conf RE tmt effect, Confidence that results reflect the effect of the treatment *vs.* confounding factors. MV, Multivariable model (e.g. Cox regression); PA, propensity score adjustment; PM, propensity matching; PQ, analysis of propensity score quintiles

Color Code:	Categories of confounding	Addressed	Neutral (likely little effect)	Limited concern	Moderate concern	High concern	Clearly confounded
	Confidence RE treatment effect	VH-very high	H-high	M-moderate	L-low	VL-very low confidence	