



Significant Improvement in OS with Postoperative Traditional Chinese Medicine in Stage I Lung Adenocarcinoma: A Real-World Study Using sIPTW

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BACKGROUND

The clinical efficacy of Traditional Chinese Medicine (TCM) in the postoperative management of early-stage lung adenocarcinoma (LUAD) remains unclear, particularly in patients who do not receive adjuvant therapy. This study evaluated the independent impact of TCM on long-term prognosis in patients with pathological stage I LUAD using a propensity score-weighted approach.

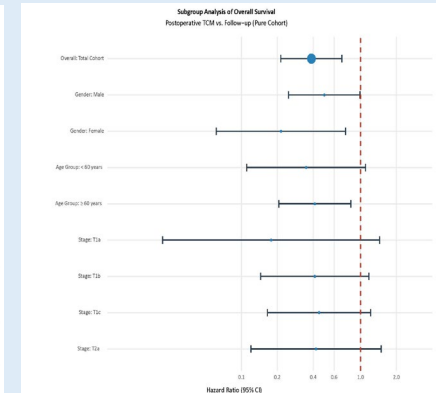
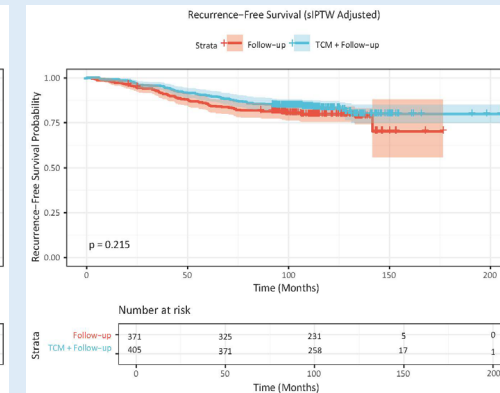
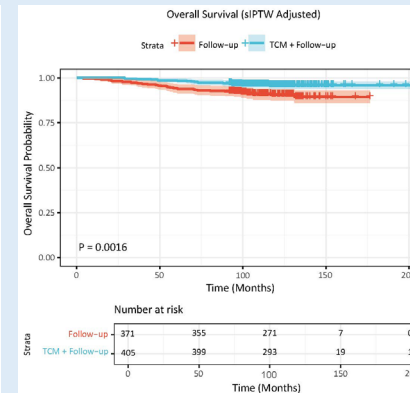
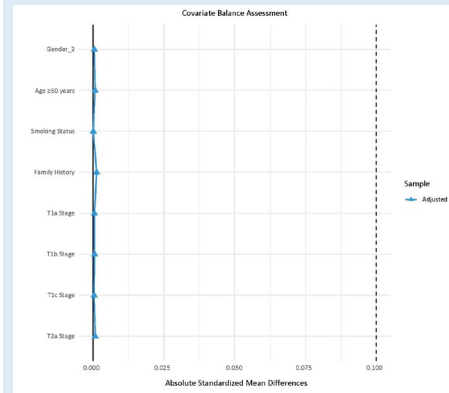
PATIENTS & METHODS

We retrospectively analyzed 776 patients with stage I LUAD who underwent radical surgery without postoperative adjuvant chemotherapy or radiotherapy at Shanghai Pulmonary Hospital. Patients were divided into the TCM group (n = 405) and the Follow-up group (n = 371). Stabilized inverse probability of treatment weighting (sIPTW) was applied to balance baseline covariates, including age, gender, smoking status, family history, and T-stage. The primary endpoint was overall survival (OS), and the secondary endpoint was recurrence-free survival (RFS). Adjusted hazard ratios (aHR) were estimated using doubly robust Cox proportional hazards models.

RESULTS

After sIPTW adjustment, baseline covariates were well balanced (absolute standardized mean differences < 0.01). TCM was independently associated with improved OS (aHR: 0.387, 95% CI: 0.214-0.698; P = 0.0016), corresponding to a 61.3% reduction in mortality risk. In the TCM group, RFS showed a favorable but non-significant trend (aHR: 0.811, 95% CI: 0.582–1.130; P = 0.215). Subgroup analyses demonstrated that the protective effect of TCM on OS was generally consistent across most clinical subgroups, particularly in females (aHR = 0.215, 95% CI: 0.061–0.750) and patients aged ≥ 60 years (aHR = 0.413, 95% CI: 0.206–0.828).

Characteristic	Category	Follow-up (n=371)	TCM (n=405)	Original SMD	Weighted SMD
Gender, n (%)	Male	152 (41.0)	181 (44.7)	0.075	< 0.01
	Female	219 (59.0)	224 (55.3)		
Age Group, n (%)	< 60	181 (48.8)	181 (44.7)	0.081	< 0.01
	≥ 60	190 (51.2)	224 (55.3)		
Smoking, n (%)	Non-smoker	328 (88.4)	353 (87.2)	0.037	< 0.01
	Smoker	43 (11.6)	52 (12.8)		
Family History, n (%)	No	362 (97.6)	398 (98.3)	0.052	< 0.01
	Yes	9 (2.4)	7 (1.7)		
T Stage, n (%)	T1a	108 (29.1)	99 (24.5)	0.091	< 0.01
	T1b	175 (47.2)	203 (50.1)		
	T1c	62 (16.7)	67 (16.5)		
	T2a	26 (7.0)	36 (8.9)		



CONCLUSION

Postoperative TCM is associated with significantly improved OS in stage I LUAD patients without adjuvant therapy, suggesting its potential role as a complementary maintenance approach requiring prospective validation.