

Wenjie Yuan¹, Zhiheng Yao¹, Hongmu Li¹, Yazhi Yan¹, Yu Huang¹, Leqi Zhong², Zhenyu Zhao³, Bin Zheng¹, **Chun Chen**^{1*}

1 Department of Thoracic Surgery, Fujian Medical University Union Hospital, Fuzhou, Fujian, China | 2 Sun Yat-sen University Cancer Center, Guangzhou, Guangdong, China | 3 Department of Thoracic Surgery, The Second Xiangya Hospital, Central South University, Changsha, Hunan, China

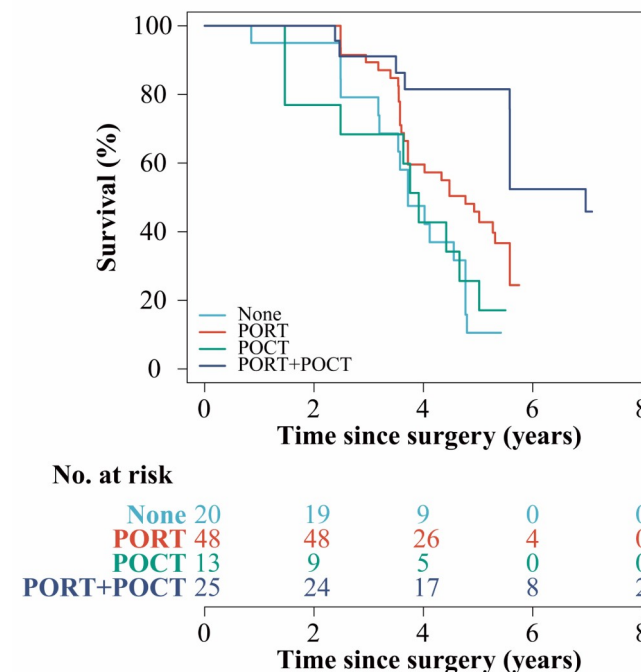
Introduction

Data on optimal adjuvant therapy after R0 resection of thymic carcinoma are limited, and most prior studies pooled histologies, resection statuses, and endpoints. We evaluated associations between postoperative treatment pathways and disease control in R0-resected thymic squamous cell carcinoma.

Methods

This retrospective three-center cohort included surgically treated, pathologically confirmed thymic squamous cell carcinoma diagnosed from January 1, 2009, through November 30, 2025. All 148 patients were included in overall survival (OS) analyses; 106 with R0 resection comprised the primary analysis set. Exposure was no adjuvant therapy, postoperative radiotherapy (PORT), postoperative chemotherapy (POCT), or PORT plus POCT. Center-stratified multivariable Cox models adjusted for prespecified clinical covariates.

Composite DFS by adjuvant therapy (R0 cohort)



n = 106

R0 primary-analysis cohort

81.5%

PORT + POCT: five-year DFS

0.18

PORT + POCT vs no therapy:
adjusted HR



Primary Findings

Among R0 patients, group sizes were 20, 48, 13, and 25. For composite DFS versus no adjuvant therapy, PORT was associated with lower event risk (HR, 0.50; 95% CI, 0.26-0.93; $P=0.030$), PORT plus POCT had the lowest risk (HR, 0.18; 95% CI, 0.07-0.45; $P<0.001$), and POCT showed no clear association (HR, 1.21; 95% CI, 0.51-2.86; $P=0.664$). Five-year DFS rates were 10.6%, 45.8%, 25.6%, and 81.5%, respectively. For documented recurrence/metastasis, PORT plus POCT was associated with lower risk versus no therapy (HR, 0.15; 95% CI, 0.04-0.53; $P=0.003$).

Additional Findings

- PORT plus POCT versus PORT: composite DFS HR 0.36 (95% CI, 0.16-0.82; $P=0.014$).
- Five-year recurrence/metastasis cumulative incidence: 63.3%, 38.3%, 51.3%, and 18.5% across the four pathways.
- In the full cohort, PORT and PORT plus POCT were associated with lower mortality; non-proportional hazards showed greater late separation.

Table 1. Selected adjusted associations

Endpoint	Comparison	Adjusted HR (95% CI)
Composite DFS	PORT vs none	0.50 (0.26-0.93)
Composite DFS	PORT+POCT vs none	0.18 (0.07-0.45)
Composite DFS	POCT vs none	1.21 (0.51-2.86)
Recurrence/metastasis	PORT+POCT vs none	0.15 (0.04-0.53)
Overall survival	PORT vs none	0.45 (0.23-0.87)
Overall survival	PORT+POCT vs none	0.37 (0.18-0.74)



Conclusion

RT-containing adjuvant pathways were associated with better disease control, with the most favorable estimates for PORT plus POCT. Baseline imbalance and limited overlap preclude causal ranking, and current data are insufficient to conclude that PORT plus POCT is superior to PORT.

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Ethics

Institutional review boards of the participating centers (April 16, 2025; No. 2025KY123); informed consent was waived.

***Corresponding author: Chun Chen | chenchun0209@163.com**