

Myasthenia Gravis Is Associated With Worse Survival After Thymoma Resection: A Multicenter Cohort Study



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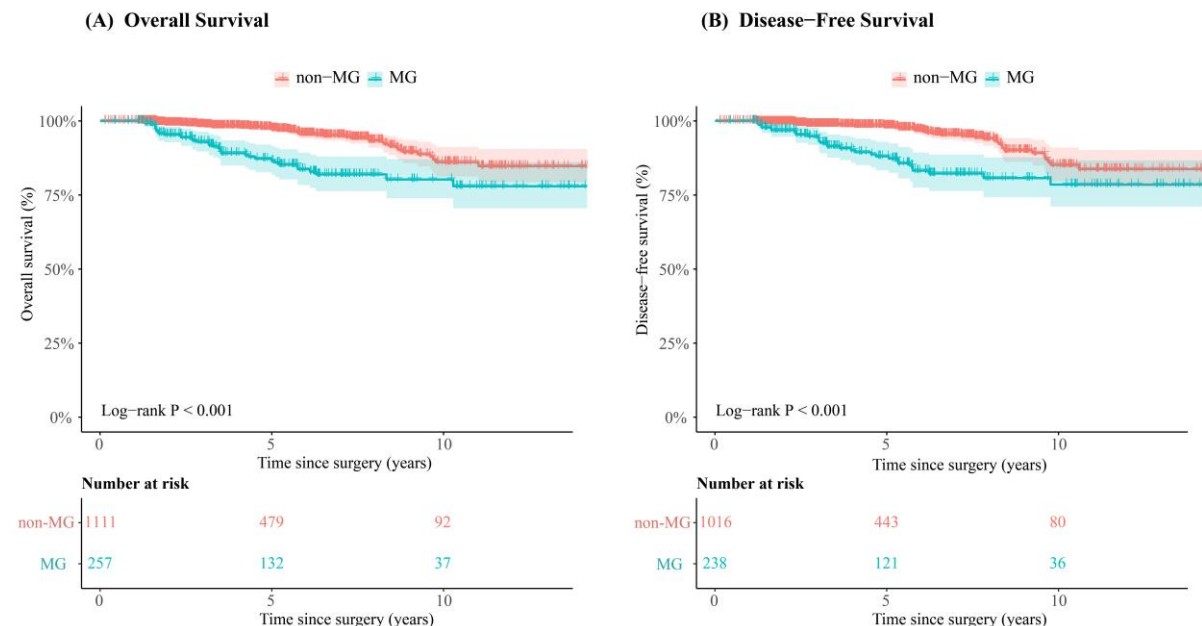
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Introduction

Prior retrospective studies have reported conflicting findings on whether concomitant myasthenia gravis (MG) influences survival after thymoma resection. We evaluated the association of MG with long-term postoperative outcomes.

Methods

This multicenter retrospective cohort study included consecutive patients who underwent resection for pathologically confirmed thymoma at three thoracic surgery centers in southern China from January 1, 2009, through November 30, 2025. Primary endpoints were overall survival (OS) in the full cohort and disease-free survival (DFS) after complete (R0) resection. Survival curves were estimated using the Kaplan-Meier method and compared with the log-rank test. Independent prognostic factors were assessed using multivariable Cox proportional hazards models.



1,368 patients

Total thymoma cohort

18.8%

Concomitant MG
prevalence

4.48

MG and mortality:
adjusted HR



Primary Findings

Among 1,368 patients, 257 (18.8%) had MG. Patients with MG were younger but had more advanced Masaoka-Koga stage. Median follow-up was 4.67 years. Five-year OS was 86.6% in patients with MG versus 97.3% in those without MG. MG was independently associated with worse OS (adjusted HR, 4.48; 95% CI, 2.74-7.34; $P < 0.001$). Among 1,254 patients with R0 resection, five-year DFS was 88.1% with MG versus 98.1% without MG, and MG independently predicted inferior DFS (adjusted HR, 3.28; 95% CI, 1.96-5.49; $P < 0.001$).

Additional Findings

- Five-year OS: 86.6% with MG versus 97.3% without MG.
- R0 cohort: five-year DFS 88.1% with MG versus 98.1% without MG.
- Stage-stratified analyses showed no significant difference in stage I, but worse outcomes with MG in stage II and stage III or higher disease.

Table 1. Baseline characteristics and key outcomes

Variable	Thymoma without MG (n = 1,111)	Thymoma with MG (n = 257)
Age, mean +/- SD	52.29 +/- 12.64	49.03 +/- 12.58
Masaoka-Koga stage IIB or higher, n (%)	550 (49.5)	161 (62.6)
R0 resection, n (%)	1,016 (91.5)	238 (92.6)
5-year overall survival	97.3%	86.6%
5-year disease-free survival after R0	98.1%	88.1%

Note: Values are mean +/- SD, n (%), or survival rates. Disease-free survival was assessed after R0 resection (non-MG, n = 1,016; MG, n = 238).



Conclusion

MG was independently associated with inferior OS and DFS after thymoma resection. These data support incorporating MG status into postoperative risk stratification and closer surveillance, particularly beyond stage I disease.

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Ethics

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

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