

EP 14.19: MYASTHENIA GRAVIS IN MEDIASTINAL TUMOURS: INSIGHTS FROM PERSAHABATAN HOSPITAL NATIONAL RESPIRATORY CENTER, INDONESIA (2021–2023)

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INTRODUCTION

- Mediastinal tumours are rare (reported prevalence 0.73–0.9%); the main types are thymoma, lymphoma and germ cell tumours.^{1,2}
- They are often asymptomatic and may be detected only after systemic manifestations appear, including autoimmune disease such as myasthenia gravis (MG).
- MG has been reported in 30–50% of people with thymoma, likely reflecting impaired central immune tolerance within the thymus.^{3,4}
- Non-thymomatous tumours may also trigger MG through paraneoplastic mechanisms such as molecular mimicry between tumour antigens and neuromuscular components.⁵
- Data on the proportion of MG across all mediastinal tumour types remain limited.

Aim

To determine the proportion of MG among people diagnosed with mediastinal tumours at Persahabatan Hospital in 2021–2023, and to describe their clinical characteristics.

METHODS

Design

Retrospective analytic cross-sectional study using medical records.

Setting and period

Persahabatan Hospital National Respiratory Center, Jakarta, Indonesia; 2021–2023.

Population

All people with a recorded diagnosis of mediastinal tumour — thymoma, lymphoma or germ cell tumour (N = 89).

Eligibility

Those who had undergone electromyography (EMG) as part of the evaluation for MG (n = 57).

Definition of MG

MG was diagnosed by a neurologist on clinical assessment, supported by the EMG result.

Variables

Age at diagnosis, sex, comorbidity, history of tobacco use, tumour stage, performance status, thymoma histological subtype, and MG status.

Analysis

Descriptive. Categorical variables are reported as counts and proportions; continuous variables as mean ± SD. No inferential testing was performed, given the small non-thymoma subgroups.

DISCUSSION AND CONCLUSION

Key findings

- MG was identified in 57.9% of the cohort evaluated with EMG. It was not confined to thymoma: it also occurred in lymphoma and germ cell tumours.
- The proportion in thymoma (66.7%) sits at the upper end of the 30–50% usually reported, possibly reflecting referral of symptomatic cases and detection of thymoma prompted by MG symptoms.
- The lymphoma (33.3%) and germ cell (44.4%) figures are consistent with paraneoplastic mechanisms acting beyond thymic pathology.
- EMG was performed in everyone with thymoma. In the non-thymoma groups it was not applied systematically, so those proportions describe the subgroup evaluated rather than the whole group.

Limitations

Single-centre retrospective design; small non-thymoma subgroups; anti-AChR antibody and MG severity data were not consistently available. EMG was not applied systematically in the non-thymoma groups, so MG may have gone unrecognised in those who were not evaluated.

Conclusion

MG occurred in all three tumour types studied, not only thymoma. Because early MG symptoms are subtle and easily attributed to the malignancy or its treatment, routine assessment for MG (including EMG) merits consideration for people with a mediastinal tumour.

Future direction

A prospective study applying systematic MG screening across all mediastinal tumour types would establish the true prevalence.

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AI-assisted tools were used for figure preparation and language editing; all data analysis, interpretation and content were performed and verified by the authors.

RESULTS

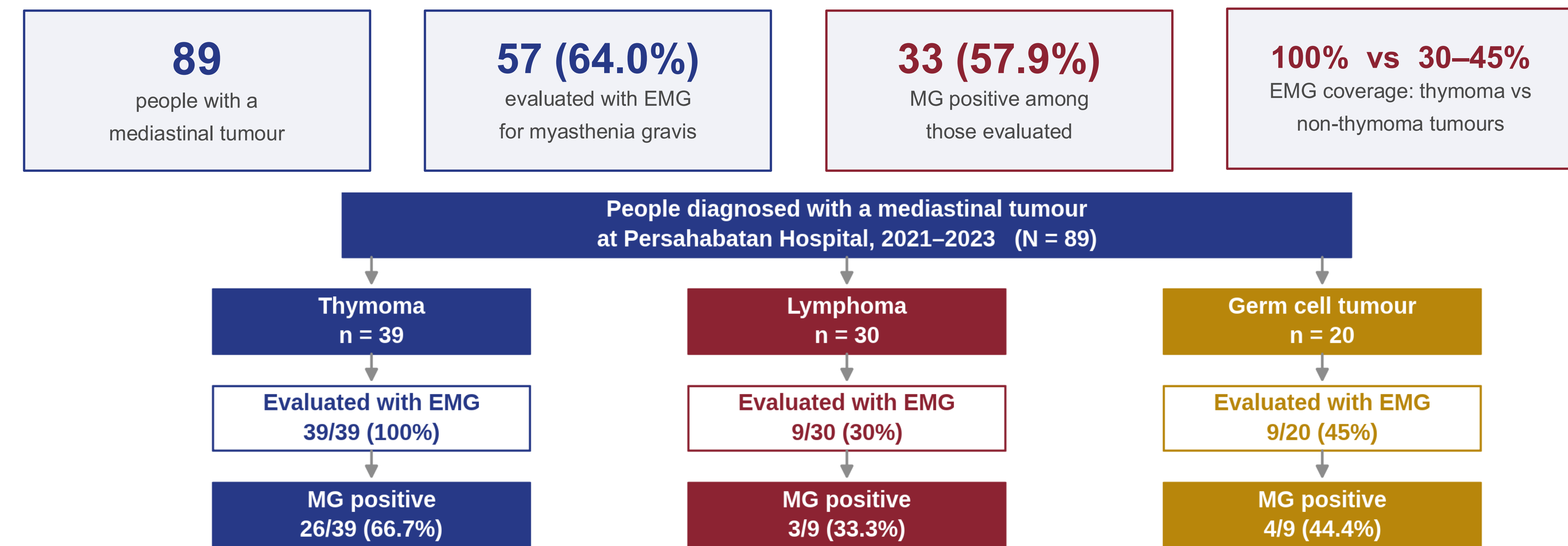
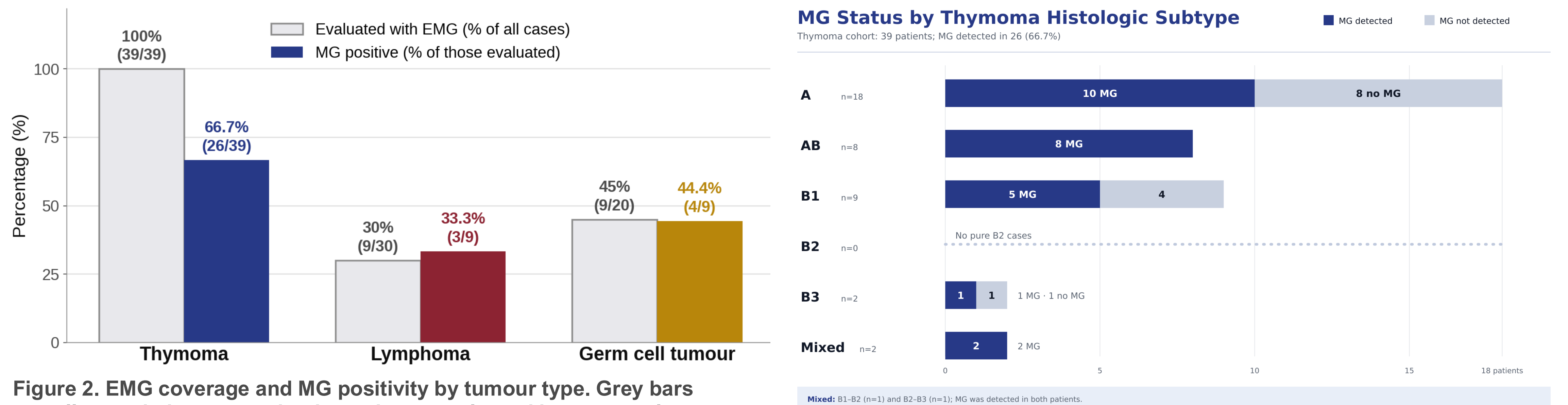


Figure 1. Flow of participants and coverage of EMG evaluation, by tumour type.



Characteristic	Thymoma (n = 39)	Lymphoma (n = 9)	Germ cell tumour (n = 9)
Evaluated with EMG, n/N (%)	39/39 (100.0%)	9/30 (30.0%)	9/20 (45.0%)
Age at diagnosis, mean ± SD, years	52.8 ± 12.6	29.7 ± 9.9	24.6 ± 5.0
Female	23 (59.0%)	3 (33.3%)	1 (11.1%)
Male	16 (41.0%)	6 (66.7%)	8 (88.9%)
Comorbidity present	21 (53.8%)	1 (11.1%)	4 (44.4%)
History of tobacco use	14 (35.9%)	3 (33.3%)	5 (55.6%)
Stage I	17 (43.6%)	0 (0.0%)	0 (0.0%)
Stage II	2 (5.1%)	0 (0.0%)	0 (0.0%)
Stage III	6 (15.4%)	0 (0.0%)	1 (11.1%)
Stage IV	14 (35.9%)	9 (100.0%)	8 (88.9%)
Good performance status	34 (87.2%)	6 (66.7%)	5 (55.6%)
MG positive	26 (66.7%)	3 (33.3%)	4 (44.4%)

Table 1. Characteristics of the analysed cohort (n = 57), by tumour type. Percentages use the number evaluated with EMG in each group as the denominator.