Commentary: Pleural metastases in thymic tumors: Is surgery the answer?

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This study,¹ from a highly respected institution, reports long-term, postresection outcomes for thymic tumors with pleural metastases. The relatively low incidence of this clinical scenario makes it unsuitable for rigorous prospective study. The current series offers a relatively large sample size and clinically relevant data suggesting that carefully selected patients have good outcomes and achieve long-term survival with aggressive treatment.

The results in this study likely reflect a rigorous multidisciplinary evaluation and careful patient selection for surgery. However, with only data from patients who underwent resection, it is not possible to make generalizations about the overall cohort of patients with thymic tumors and pleural disease.

The differentiation between thymoma and thymic carcinoma, which are both included in the present study, may be apparent only after surgery, yet these tumors have vastly different prognoses. The authors noted a median survival of 11.8 years in patients with thymoma whereas patients with thymic carcinoma had a median survival of 5.5 years.¹ Although 5.5 years is a longer median survival than for most other metastatic cancers, the study also revealed that none of the 15 patients were disease free after 3 years postoperatively, suggesting that surgeons should be extremely selective in offering resection to patients with stage 4 thymic carcinoma.

Novel technologies aimed at ablating microscopic disease are emerging as adjuvant therapies for thymoma and thymic carcinoma. Intraoperative hyperthermic chemotherapy, a well-described surgical technique in peritoneal carcinomatosis, can be applied in the thorax for pleural metastases. However, retrospective series show varying results, including a disappointing 0% 5-year survival rate for patients with de novo stage IVa thymic cancer.^{2,3} Photodynamic therapy, which has been shown to provide a survival advantage in lung cancer,^{4,5} is a technique in which tumor cells are killed from direct exposure to light via a photosensitizer. In retrospective studies, photodynamic

Left: M. Shea Harrison, MD; right: C. Corbin Frye, MD

Central Message

Thymoma and thymic cancer with pleural metastases can be treated with aggressive surgical therapy.

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therapy combined with surgery was associated with a 13% local recurrence rate for thymoma with pleural spread⁶ and a 63% cure rate when combined with surgery for a curative intent.⁷ Thymic tumors have also been shown to have response to immunotherapy, most notably, pembrolizumab. Two phase II trials showed pembrolizumab to be associated with response rates of 19% to 23% and stable disease rates of 53% to 54%.^{8,9} However, severe autoimmune complications such as hepatitis, myocarditis, and myasthenia gravis occurred in more than 70% of thymoma patients.^{8,9} Although future studies are needed, it is possible that within the next decade, metastatic thymic malignancies will be routinely treated with these novel adjuvant therapies.

According to the National Cancer Institute, there are 10 ongoing trials regarding unresectable or metastatic thymic carcinoma and thymoma.¹⁰ All of them are investigating adjuvant immunotherapy and chemotherapy for unresectable tumors, and none of them have a treatment arm that includes surgical management. This shows not only the importance of the current study but also the need for future research and trials that focus on surgical management of these complex tumors.

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