BRIEF REPORT

Thymic Carcinoma Management Patterns among International Thymic Malignancy Interest Group (ITMIG) Physicians with Consensus from the Thymic Carcinoma Working Group

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ABSTRACT

Introduction: Thymic carcinomas are rare epithelial malignancies with limited data to guide management.

Methods: To identify areas of agreement and variability in current clinical practice, a 16-question electronic survey was given to members of the International Thymic Malignancy Interest Group (ITMIG). Areas of controversy were discussed with the Thymic Carcinoma Working Group and consensus was achieved, as described.

Results: A total of 100 ITMIG members responded. There was general agreement regarding the role for multimodality therapy with definitive surgical resection in physically fit patients with advanced but resectable disease. Areas of controversy included the need for histologic confirmation before surgery, the role of adjuvant therapy, the optimal first-line chemotherapy regimen, and the recommended treatment course for marginally resectable disease with invasion into the great vessels, pericardium, and lungs.

Conclusions: The results of the questionnaire provide a description of the management of thymic carcinoma by 100 ITMIG members with a specific interest or expertise in thymic malignancies. Although there was agreement in some areas, clinical practice appears to vary significantly. There is a great need for collaborative research to identify optimal evaluation and treatment strategies. Given the need for multimodality therapy in many cases, a multidisciplinary discussion of the management of patients with thymic carcinoma is critical.

Keywords: Thymic carcinoma; Clinical management; Survey; Multimodality therapy

Introduction

Thymic carcinomas are rare epithelial tumors of the thymus with limited data to guide management decisions.[1] Thymic carcinomas are the most aggressive thymic tumor subtype.[2] Surgery is considered the cornerstone of management and typically the first step

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in treatment.[3,4] Adjuvant therapies such as radiation therapy (RT) and chemotherapy are often used to decrease the risk for recurrence.[5–9] Given the rarity of thymic epithelial tumors and paucity of prospective clinical trials, variability exists in practices for managing them.

The International Thymic Malignancies Interest Group (ITMIG) was established to increase collaborative efforts focused on these tumors and develop management guidelines to enhance uniformity in treatment of these tumors. The Thymic Carcinoma Working Group (TCWG) is composed of a multidisciplinary group of ITMIG clinicians who meet regularly to identify ways to standardize and advance the work-up and management of thymic carcinoma. We surveyed ITMIG clinicians to identify areas of agreement and variability in current clinical practice related to management of thymic carcinomas.

Methods

A 16-question electronic survey was designed and approved by the members of the TCWG. All 565 ITMIG members were identified and invited to participate. Questions were directed at demographics and initial clinical management of thymic carcinoma (Table 1).

The survey was conducted from December 9, 2013, to January 20, 2014. By grouping answers together, general agreement was determined by greater than 60% concordance.

Areas of controversy were discussed with the TCWG and consensus was achieved, when possible, before the manuscript was prepared.

Results

A total of 100 ITMIG members responded. Table 2 lists the demographic information of the survey responders. Responses are depicted in Figure 1.

Areas of General Agreement and Controversy

Areas of General Agreement. The following areas of general agreement were identified: (1) the treatment course for stage IVA thymic carcinoma with a limited number of left-sided pleural nodules (question 4), with 87% of responders recommending multimodality therapy, including surgery; (2) the surgical management of stage IVA disease with multiple (>5) pleural nodules (question 5), with 60% of responders recommending thymectomy with or without pleurectomy/decortication; (3) the treatment course for resectable disease with two biopsy-proven cervical lymph nodes (question 7), with 69% of responders recommending multimodality therapy including surgery; (4) the treatment of locally recurrent disease (question 9), with 75% of responders recommending multimodality therapy including surgery; (5) the treatment course for unresectable disease due to great vessel invasion (question 10), with 71% of responders recommending definitive chemoradiation; (6) the acceptable technique for adjuvant radiotherapy (question 11), with 93% of responders choosing some form of three-dimensional planned radiation; and (7) the acceptable dose of RT after an R1 resection (question 12), with 73% of responders choosing 50 to 60 Gy.

Areas of Controversy. The following areas of controversy were identified: (1) the need for histologic confirmation of the pathologic diagnosis before a total thymectomy (question 1), with 54% of responders recommending upfront total thymectomy, 36% recommending a core biopsy, and 10% recommending an alternative form of biopsy; (2) the role of adjuvant therapy after an R0 resection of a Masaoka stage II thymic carcinoma (question 2), with 51% of responders recommending observation, 25% recommending adjuvant RT alone, 13% recommending adjuvant RT and chemotherapy, and 11% recommending adjuvant chemotherapy alone; (3) the role of adjuvant therapy after an R0 resection of a Masaoka stage III thymic carcinoma (question 3), with 42% of responders recommending adjuvant RT alone, 34% recommending adjuvant RT and chemotherapy, 14% recommending observation, and 10% recommending adjuvant chemotherapy alone; (4) the preferred first-line chemotherapy for stage IVB thymic carcinoma (question 6), with 42% of responders recommending cisplatin/doxorubicin/cyclophosphamide, 23% recommending a platinum/taxane combination, 19% recommending cisplatin/etoposide, and 16% recommending doxorubicin/cisplatin/vincristine/cyclophosphamide; and (5) the recommended treatment course for disease with invasion into the great vessels, pericardium, and lungs bilaterally (question 8), with 46% of responders recommending definitive chemoradiation, 39% recommending multimodality therapy with surgery, and 15% recommending chemotherapy alone.

Analysis by Specialty

Upon further review of the results by specialty, some generalizations were noted. Surgeons were more likely to recommend surgical management for stage IVA disease with multiple (>5) pleural nodules (question 5: 80% versus 48% versus 62%) or involvement of cervical lymph nodes (question 7: 79% versus 55% versus 34%).

Discussion

We have presented the results of a questionnaire that provides a cross-sectional assessment of the management patterns of 100 ITMIG members, a group of