

Evaluation of Chemotherapeutic Outcomes for Thymic Carcinoma Patients

Brice Wuthrich¹, Hannah Davis², Louis Laniak², Emily Heldman², Patrick Loehrer³, Kenneth Kesler⁴

^{1,2}Indiana University School of Medicine; ³Indiana University School of Medicine, Department of Hematology-Oncology; ⁴Indiana University School of Medicine, Department of Cardiothoracic Surgery

Background and Hypothesis:

Thymic Epithelial Tumors are uncommon tumors of the anterior mediastinum composed of thymomas and thymic carcinomas (TC). TC's are known to have worse disease outcomes and lower rates of survival in comparison to thymomas and are suspected to have lower response rates to chemotherapy as well. As these tumors are rare, little data exists assessing the true efficacy of chemotherapeutic regimens for TC patients. Due to this lack of data, and that the Indiana University Health Simon Cancer Center treats a high percentage of TET patients, a database of these patients covering a variety different disease characteristics and treatments has been established. We hypothesize, upon evaluation of this database, response rates to anthracycline based regimens (PAC) will be superior to non-anthracycline based regimens (i.e., PE, Carbo/Taxol) for TC patients.

Methods:

In this project, a collection of patients seen by Dr. Patrick Loehrer and/or Dr. Kenneth Kesler was acquired, and a database was created using these patients in RedCap. Once established, we evaluated patient medical records in Cerner and entered data related to disease characteristics and treatments. These patients were then analyzed accordingly to evaluate chemotherapy response rates.

Results:

The database yielded 123 instances of chemotherapy treatment for TC. Of which, the most popular treatments were PAC and Carbo/Taxol. The data suggests that PAC generates a higher response rate (65.5%) than other therapies (Carbo/Taxol: 27.6%, PE: 58.3%, etc.). Therefore, there is evidence that anthracycline based regimens may be more effective at generating response rates in comparison to non-anthracycline based regimens.

Conclusion and Potential Impact:

This project will help elucidate the effectiveness of recommended systemic therapies for thymic carcinoma patients from one of the largest TET databases constructed. Ultimately, we hope that with clarity of the effectiveness of treatment, this can serve as a reliable reference for evidence-based medicine for the care of TC patients.