

## **Delayed radioactive iodine therapy and patterns of failure and survival among differentiated thyroid cancer patients**

V. Thuvaraka<sup>1</sup>, G. Visakapavan<sup>1</sup>, K. Thijan<sup>1</sup>, R. Surenthirakumaran<sup>2</sup>, C. Rajasooriyar<sup>3,4</sup>

<sup>1</sup> Faculty of Medicine, University of Jaffna

<sup>2</sup> Department of Community and Family Medicine, University of Jaffna

<sup>3</sup> Teaching Hospital Jaffna

<sup>4</sup> Tellippalai Trail Cancer Hospital

**Background and objective:** The optimal time to initiate radioactive iodine (RAI) therapy after surgery for differentiated thyroid cancers remains unclear. Guidelines recommend commencement of adjuvant RAI treatment for differentiated thyroid cancers within 12 weeks of surgery. In Sri Lanka, the average delay in offering RAI therapy varies from 3 to 24 months. This study aimed to measure the delay and describe treatment delays by patterns of treatment failure and survival.

**Methods:** An institution-based cross-sectional descriptive study was carried out among all patients with thyroid cancer referred to Tellippalai Trail Cancer Hospital between 1<sup>st</sup> April 2012 and 31<sup>st</sup> October 2019. Data were collected from patient records and analyzed using SPSS (Statistical Package for Social Science 23<sup>rd</sup> Version). Kaplan-Meier curves for overall survival and disease-free survival were calculated from which 5-year event-free rates were determined.

**Results:** A total of 150 patients were included in the study. Mean age of the sample was 43.6 years, 21 (14%) were males and 129 (86%) were females, and 128 (85.3%) patients were diagnosed with papillary carcinoma and 22 (14.7%) with follicular carcinoma. Thirty patients (20%) had lymph node metastasis; 87.3%, 10.7% and 2% were categorized as having low, intermediate, and high-risk disease, respectively. Only 27 (18%) received RAI within 12 weeks; just over half (51.3%) within 6 months; 34 (22.7%) within one year; and 11 (7.30%) after one year. Only 3 (2%) patients experienced recurrence; two had local recurrence and one had regional recurrence. Among those who had recurred locally, one received RAI therapy 3 to 6 months after surgery, and the other, a year after surgery. The patient who had recurred regionally received RAI therapy 3 to 6 months after surgery. None died of thyroid cancer.

**Conclusion:** This study suggests that the treatment failure rate is very low in spite of considerable delays in receiving iodine treatment.

**Keywords:** Thyroid Cancer, Radioactive Iodine Therapy, Treatment Delay, Jaffna