Curative surgical and adjuvant management of metastatic follicular thyroid carcinoma: Reflections on multidisciplinary decision-making in complex disease

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ABSTRACT

Introduction: Follicular thyroid carcinoma (FTC) is a differentiated malignancy with potential for vascular invasion and distant metastases. Although uncommon, some patients present with extensive local invasion alongside systemic spread. In younger patients, even with metastases, treatment intent remains curative. Managing such complex disease requires coordinated multidisciplinary input to balance oncological control and functional preservation. Aims To highlight the role of multidisciplinary team (MDT) coordination in the curative management of advanced FTC and explore integration of targeted therapy in resource-limited healthcare settings. **Materials and Methods:** A 49-year-old woman with metastatic FTC (T4aN1bM1) and active systemic lupus erythematosus presented with progressive compressive symptoms and a large neck mass. MDT planning involved endocrine surgery, otolaryngology, cardiothoracic and plastic surgery, anaesthetics, rheumatology, nuclear medicine, and interventional radiology. Management began with selective thyroid artery embolisation and elective airway protection. She underwent total thyroidectomy, tracheal reconstruction, manubriectomy with bilateral rib resection, chest wall plating, and pectoralis major flap reconstruction. Post-operatively, she received external beam radiotherapy to the sacral bone and radioactive iodine ablation (I-131, 150 mCi). **Results:** Post-ablation whole-body scanning revealed both iodine-avid (neck, mediastinal, pulmonary, hepatic) and non-avid metastases (lung, liver, sacrum). The patient experienced a stormy post-operative course, including surgical site infection and respiratory complications, but recovered with good functional outcome. A PET-CT is planned for disease surveillance to assess treatment response and guide further management. While repeat RAI remains under consideration, the presence of non-avid lesions necessitates evaluation for tyrosine kinase inhibitors (TKIs). In Malaysia, access to TKIs such as Lenvatinib and Sorafenib is limited by cost and institutional access, reinforcing the need for timely surgery and strategic therapy use. **Conclusion:** This case highlights the value of early MDT coordination in curative management of advanced FTC. A multimodal approach enables effective resection, supports adjuvant therapy, and prepares for targeted interventions in selected patients with metastases.

Keywords: Follicular thyroid carcinoma, multidisciplinary team (MDT), distant metastasis