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PROCEEDING

075. The Use of Tyrosine Kinase Inhibitor as Neoadjuvant Therapy in Patients with Thyroid Carcinoma: A Literature Review

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ABSTRACT

Background: Papillary thyroid carcinoma (PTC) and medullary thyroid cancer (MTC) are the most common thyroid cancers in Indonesia, with an increasing incidence in recent years. The primary treatment for PTC is surgery, but it often faces challenges in managing invasive tumors. Tyrosine kinase inhibitors (TKI) have shown potential as neoadjuvant therapy to shrink tumors before surgery, though their use remains experimental. This study aims to evaluate the effectiveness of TKI as neoadjuvant therapy in patients with unresectable thyroid carcinoma, specifically PTC and MTC. **Methods:** Following PRISMA 2020 guidelines, a literature review was conducted using databases such as Cochrane, PubMed, EMBASE, and Scopus. The study selection was based on inclusion and exclusion criteria, with a risk of bias assessment performed using Joanna Briggs Institute tools. Data from case reports were extracted and analyzed qualitatively. **Results**: Eight case reports demonstrated that TKI, including Sunitinib, Lenvatinib, and Sorafenib, effectively reduced tumor size, allowing previously unresectable tumors to be surgically removed. Despite showing significant tumor shrinkage, adverse effects such as hypertension and gastrointestinal issues were noted, requiring careful management during treatment. Additionally, the duration of TKI therapy varied among the cases, but all showed notable improvements in tumor resectability. **Conclusion:** TKI shows promise as an effective neoadjuvant therapy for reducing tumor size in invasive PTC and MTC, making surgery more feasible. However, evidence is still limited to case reports, and further research is required to confirm the safety and effectiveness of TKI in this setting and to determine the appropriate patient selection criteria.

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