OP-4-1

INCIDENCE AND ASSOCIATED CLINICAL FACTORS OF THYROID DYSFUNCTION DURING TYROSINE KINASE INHIBITOR THERAPY AMONG NONTHYROIDAL CANCER PATIENTS: A RETROSPECTIVE STUDY

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OBJECTIVES
Tyrosine kinase inhibitors (TKIS) have been demonstrated to induce thyroid dysfunction—most commonly, hypothyroidism. Newer TKIS have been increasingly used, hence, this study aimed to determine the incidence and clinical profile of TKI-induced thyroid dysfunction in the University of Santo Tomas Hospital (USTH), Philippines.

METHODOLOGY
A retrospective observational study of TKI-treated non-thyroidal cancer patients >18 years old with available TSH determination from 2013 to 2020 at USTH was done.

RESULTS
From 127 TKI-treated patients, 61 had TSH determination. Incident thyroid dysfunction was 41%. Thirty-one percent had hypothyroidism (i.e., 24% overt [mean TSH 16.64 uIU/ml]; 7% subclinical [mean TSH 7.10 uIU/ml]). Hypothyroidism observed classified according to TKIS were as follows: pazopanib (81%, 9/11), gefitinib (33%, 4/12), imatinib (9%, 2/22), osimertinib (100%, 2/2) and afatinib (100%, 2/2) [p<0.001]. The median time at risk was 8 and 26 months for overt and subclinical hypothyroidism, respectively. Fifty seven percent were given levothyroxine (50-100 mcg/day). Seventy-one percent had persistent hypothyroidism (higher median TSH 16.8 uIU/ml, p=0.009). Average time to recovery of transient hypothyroidism was 40 months. Ten percent had hyperthyroidism (highest rate in bosutinib). Median number of months to occurrence of hyperthyroidism was 1.5. Non-small cell lung cancer patients were 73.85% less likely to maintain euthyroidism (p=0.021). No other clinical risk factors were associated with the development of thyroid dysfunction.

CONCLUSIONS
Surveillance for thyroid dysfunction is important during TKI therapy due to an incidence of 41% (31% hypothyroidism, 10% hyperthyroidism). Median time to occurrence of overt hypothyroidism and hyperthyroidism was 8 and 1.5 months, respectively. Except for solid cancer diagnosis, no other demographic profiles were associated with thyroid dysfunction.