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**The Influence of H<sub>2</sub>-receptor Antagonist Administration to the 24-hours Uptake of I-131 in Thyroid Gland****Andreas Lim***Universitas Padjadjaran, West Java, Indonesia*

Hyperthyroidism and thyroid carcinoma are quite common in the world. In Indonesia, hyperthyroidism has a 6,9 % prevalence and according to GLOBOCAN 2018, thyroid carcinoma is the eleventh most prevalent carcinoma in Indonesia. Radioactive iodine (NaI-131) has been used as one of the option in hyperthyroidism and thyroid carcinoma management. NaI-131 can be administered orally. NaI-131 will enter the systemic after being absorbed at the intestine and then will be taken up by the thyroid gland and other organs those express Natrium-iodide symporter (NIS). H<sub>2</sub>-receptor antagonist (H<sub>2</sub>RAs) is a medication that often been given before administration of NaI-131. A predecessor study showed that H<sub>2</sub>RAs will prolong the gastric emptying time that could cause alteration of the NaI-131 biodistribution. The aim of this study is to determine the value and the difference in value of the 24-hours NaI-131 uptake in the thyroid gland pre- and post-H<sub>2</sub>RAs administration.

**Methods:** This study was a prospective study with quasi-experimental design pre- and post-intervention. Determination of the sample was done by non-probability sampling method with consecutive sampling technique. Subjects with normal fT<sub>4</sub> level were selected based on inclusion-exclusion criteria. Those who fulfilled the inclusion criteria were administered 0,2 mCi of NaI-131 and then the uptake calculations were performed 24 hours later. The second uptake calculations were performed 30 days later. All of the subjects were asked to consumed H<sub>2</sub>RAs 1 hour before another 0,2 mCi of NaI-131 was given. The uptake calculations post-H<sub>2</sub>RAs were also performed at 24 hours. These calculations then were analysed.

**Result:** A total of 14 patients were enrolled in this study. Most of them were women (78%) with average age of 37,6 years old with range between 20 – 55 years old. This study showed a median of 24-hours uptake of NaI-131 on thyroid gland before and after H<sub>2</sub>-receptor antagonist were 20,6 and 16,7 respectively. The median percentage of the 24-hours NaI-131 uptake reduction after the administration of H<sub>2</sub>RAs was 22,4%.

**Conclusion:** H<sub>2</sub>-receptor antagonist decreased the 24-hour NaI-131 uptake on thyroid gland significantly.

**Biography**

Andreas Lim has completed his medical doctor from Pelita Harapan University, Tangerang, Indonesia in 2004, and residency in nuclear medicine from Universitas Padjadjaran, Bandung Indonesia in 2020. At the moment, he is working as a full timer nuclear medicine specialist at Indriati Hospital Solo Baru, Central Java, Indonesia. He has published 2 papers in reputed international journals and has been serving as a reviewer in a reputed national journal.