Are there any opportunities with more higher TSH levels and smaller tumor size for individualised radioiodine theraphy in DTC?

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Introduction: DTC (Differentiated Thyroid Cancer) is most frequent endocrine malignancy, and after the surgery RA (Radioiodine Ablation) is the second step. But up to 20% of patients don't have sufficient response to first dose. These cases mostly receive more than one doses. This increased patients and medical staff's radiation exposure. In addition RA requires discontinuation of levotiroxin and this is really hard period psychologically and physically for patients. TSH>30 uIu/ml is a criteria for RA and some studies reported, if TSH is increased, TR (Theraphy Response) can be higher. In addition, tumor size and TR rate have negative correlation in most of cancers. In this preliminary study, we assessed different TSH levels and sizes relation between TR. Our hypothesis is, these findings can give us opportunity to individualised radioiodine theraphy and more successful patient management.

Methods: We retrospectively reviewed DTC patients who received RA after surgery in 2011. Total 66 patients can be found. They assessed 6-12 months with I-131 (Iodine131) WBI (Whole Body Imaging) and stimulated Tg (Thyroglobulin) for TR. If Tg<0.2 and I-131WBI negative; 0.2<Tg<1.0 and/or I-131WBI has pathologic faint uptake; 1.0<Tg<10 and/or I-131WBI has pathologic moderate uptake and others accepted as ER (Excellent Response); HLR (High Level Response); IR (Indeterminate Response) and NR (Non-response) respectively.

Findings: NR rate for TSH<30; 30-50 uIu/ml; >50 uIu/ml are 25%; 14.3%; 10.8% respectively. ER and HLR rate for TSH>50 uIu/ml and <50 uIu/ml are 75.6% and 83.4%. Tumor size have <10 mm; 10<size<40 mm and >40 mm have 4.0%; 13.0% and 42.9% NR rate.

Conclusion: TSH<30 uIu/ml isn't sufficient for RA. But there is no significant differencies between 30-50 uIu/ml and >50 uIu/ml. If tumor size>40 mm NR rate is very high. In these patients radioiodine doses maybe increased. But these preliminary findings needs to be supported by high scale studies.

Biography

Fikri Selcuk Simsek graduated from Eskişehir Osmangazi University Medicine faculty. He completed his Master's from Eskişehir Osmangazi University Medicine faculty (2005) and Doctorate from Eskisehir Osmangazi University Medicine faculty (2011). Presently, he is working as Assistant Professor in Nuclear Medicine Department at the Firat University.

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