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Ongoing risk stratification for differentiated thyroid cancer (DTC) - stimulated serum thyroglobulin (Tg) before radioiodine (RAI) ablation, the most potent risk factor of cancer recurrence in M0 patients.

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Abstract

INTRODUCTION:

Adequate postoperative risk assessment currently constitutes the principle of DTC treatment and further management. The aim of the study - a retrospective assessment of risk factors influencing DTC relapse.

MATERIAL AND METHODS:

The study group consisted of 510 DTC staged pT1b-T4N0-N1M0, in whom total thyroidectomy and complementary radioiodine (RAI) treatment were carried out. In 71% papillary thyroid cancer was diagnosed, whereas in the remaining 29% - follicular thyroid carcinoma. Based on TNM classification from 1997, T1 feature was diagnosed in 11.6%, T2 in 35.1%, T3 in 8.4%, T4 in 9,4%, while in 35.5% - Tx. Lymph node metastases were present in 24.7% of cases. Median follow-up was 12.1 years (1.5-15.2).

RESULTS:

Age at DTC diagnosis, tumour diameter (T), lymph node metastases (N1), stimulated thyroglobulin, and RAI uptake in thyroid bed at qualification for RAI ablation significantly influenced freedom from progression time (FFP) in a multivariate analysis. When postoperative stimulated Tg was > 30 ng/mL the risk of relapse increased nearly six-fold, whereas the presence of N1 feature - four-fold. The total risk of relapse in the whole group was 12.55% while median FFP was 154.8 months. Five-year and 10-year FFP was 90.1% and 87.5%, respectively.

CONCLUSIONS:

Postoperative stimulated thyroglobulin level was the most potent, independent risk factor influencing FFP in DTC patients. Age above 60 years, an initial DTC stage (T and N features), and low RAI uptake in thyroid bed (< 1%) were related to a higher risk of DTC relapse, whereas the investigated histopathological features were insignificant.