

Multifactorial analysis on the short-term side effects occurring within 96 hours after radioiodine-131 therapy for differentiated thyroid carcinoma

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Objective: This study was performed to clarify factors that might influence short-term side effects occurring within 96 hours after administration of ^{131}I for patients with thyroid carcinoma. **Methods:** In 71 patients with differentiated thyroid carcinoma, short-term side effects including gastrointestinal complaints, salivary gland swelling with pain, change in taste and headache were retrospectively analyzed. All patients were given domperidone for prevention of gastrointestinal complaints and advised to consume sour foods to promote discharge of radioiodine from the salivary glands. Selected factors possibly affecting the incidence of side effects were dose per body weight, TSH, effective half-life of ^{131}I , sex, age, ^{131}I accumulation into the stomach and salivary glands, and edema prior to radioiodine administration. The factors were evaluated by multivariate analyses. **Results:** Incidence of gastrointestinal complaints, salivary gland swelling with pain, change in taste and headache was 65.2%, 50.0%, 9.8% and 4.4%, respectively. In gastrointestinal complaints, the incidence of appetite loss, nausea and vomiting was 60.9%, 40.2% and 7.6%, respectively. The gastrointestinal complaints increased significantly in the patients dosed above 55.5 MBq/kg and with TSH elevation. For salivary gland swelling with pain, female patients displayed a significantly higher incidence than males. No statistically significant factors were detected for change in taste or headache. **Conclusions:** Significant factors influencing short-term side effects were dose per body weight and TSH values for gastrointestinal complaints, and female sex for salivary gland swelling with pain. Our preliminary experience suggests that the most frequent gastrointestinal complaints can be prevented with ramosetron.

Key words: radioiodine therapy, thyroid cancer, short-term side effects, dose, TSH