

## **The RAI-6 questionnaire: a new screening questionnaire to monitor complications of radioiodine treatment**

### **ABSTRACT**

**Objective:** The aim of this study is to develop a simple and efficient screening questionnaire to be able to routinely monitor potential radioiodine therapy-induced complications. **Materials and Methods:** A new radioiodine 6 (RAI-6) questionnaire containing six questions addressing salivary, ocular, and nasal symptoms as well as quality of life was developed. Validation of the RAI-6 questionnaire was assessed with a group of fifty-four patients diagnosed with differentiated thyroid carcinoma treated post-operatively with radioiodine therapy, and in a group of fifty healthy volunteers. The patient's group was subdivided into subgroups according to the radioiodine dose received: 23 patients received less or 30 mCi, 28 patients received 100 mCi, and three patients received between 200 and 300 mCi. We asked the patients to complete the RAI-6 questionnaire in a retrospective manner, regarding their situation before radioiodine therapy and regarding their actual symptoms after radioiodine therapy. The time needed to complete the RAI-6 was also assessed both in patients and in healthy volunteers. **Results:** The mean post radioiodine treatment RAI-6 score were significantly higher than the mean pre radioiodine RAI-6 scores ( $p < 0.001$ ) and the scores of healthy participants ( $p < 0.001$ ). The mean total RAI-6 scores increased significantly with increasing radioiodine dose. A total mean RAI-6 score of each question was also analysed and revealed that ocular and nasal discomfort as well as quality of life were the items which affected the patients most after radioiodine treatment. The mean time to fill the RAI-6 questionnaire was 2 min for patients and 49 s for healthy volunteers. **Conclusion:** The RAI-6 represents a new questionnaire which is easy and quick to complete. This simple screening tool can be recommended for general clinical practise and further epidemiological research.

**Keyword:** Sialadenitis; Radioiodine; Xerostomia; Xerophthalmia; Questionnaire