Efficacy and safety of an outpatient low radioidine dose for thyroid remnant ablation in low risk papillary thyroid carcinoma (PTC)

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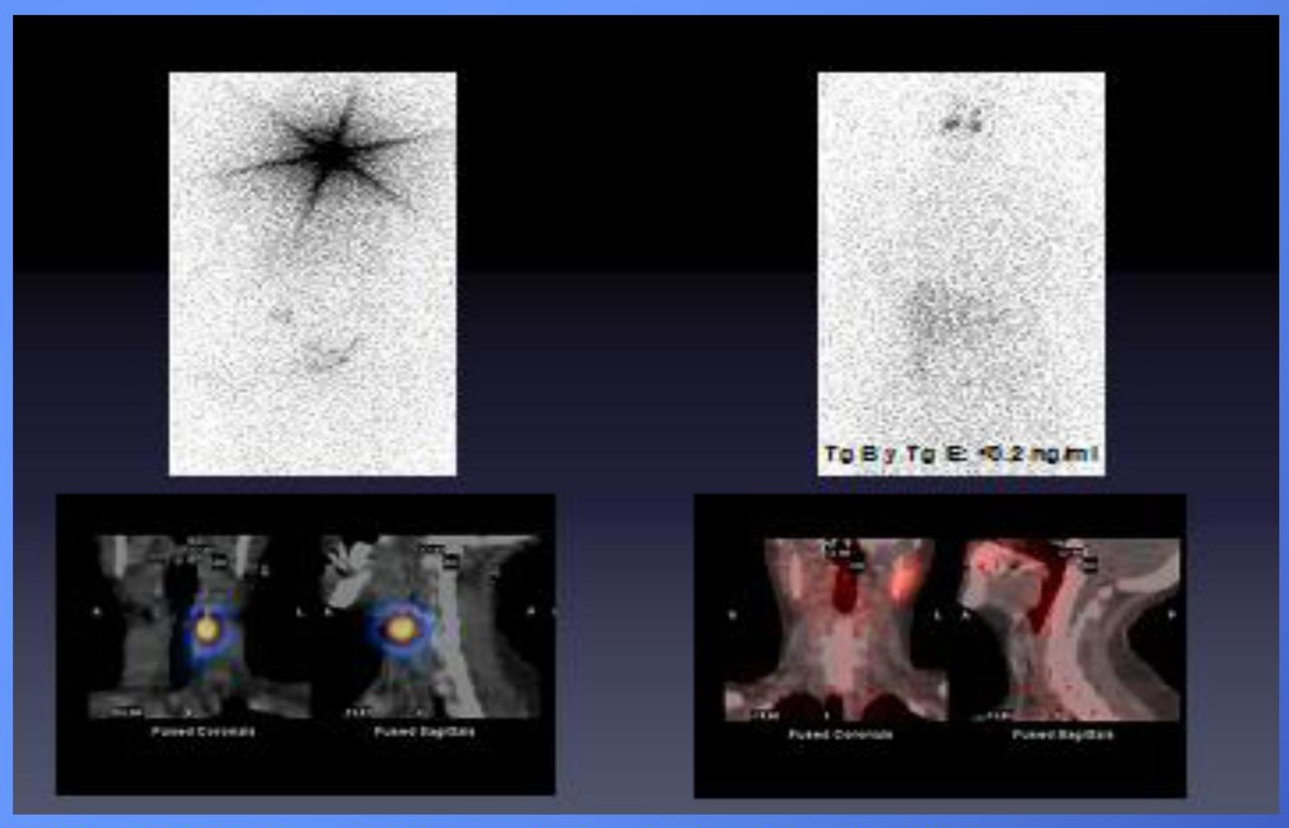
AIM:

To evaluate the efficacy and safety of thyroid remnant ablation in patients with low-risk PTC by using 1100 MBq (30 mCi) outpatient doses

PATIENTS / METHODS:

- Twenty-five patients (24 women, 55 years-old mean age, range 34-77 years) referred for ablation of postsurgical thyroid remnants diagnosed with low-risk PTC (pT1-T2 , N0, M0) were studied.
- After total thyroidectomy, an outpatient ablation was performed with a dose of 1100 MBq (30 mCi) of ^{131}I under rhTSH stimulation with strict radiation protection measurements and dosimetry control at home environment.
- Whole body scan (WBS and SPECT-CT) were performed on the fifth day. Control of therapeutic efficacy was performed at 6 months, using WBS and SPECT-CT with ^{123}I after stimulation with rhTSH.
- Basal and post-stimulated thyroglobulin and antithyroglobulin antibodies serum levels were determined in both studies.
- Ablation was considered successful when no abnormal activity was observed in the WBS and SPECT-CTs and when basal/stimulated thyroglobulin serum levels were under 1 ng/ml and 2 ng/ml, respectively.

Low Risk PTC: pT1 or T2 N0 M0, papillary classical variant



A) WBS + SPECT/CT 5 days after ^{131}I therapeutic dose showing uptake at thyroid bed.

B) Therapeutic-efficacy evaluative WBS with ^{123}I-rhTSH at 6 months was negative. Undetectable serum Tg level (less than 0,2 ng/mL) and negative anti-Tg levels.

RESULTS:

- All 25 patients showed thyroid remnants uptake without uptaking adenopathies in the WBS and SPECT-CTs performed on the fifth day after administration of ^{131}I.
- In 23/25 patients (92 %), a successful ablation at the moment of the effectiveness control at 6 months was achieved:
  - One patient (5.1 ng/ml stimulated Tg) was re-treated with a new dose of 30 mCi
  - A second patient (2.3 ng/ml stimulated Tg) spontaneously normalized her basal and stimulated Tg levels at the 18-month control.
- None of the 25 patients presented any neck symptoms, nor xerostomy, nor nausea and vomiting, nor gastralgia and nor change in taste
- Dosimetry on family members showed exposure levels of less than 0.2 mSv.

CONCLUSION

- *The postsurgical outpatient treatment with an activity of 1100 MBq is safe for the family environment and cost-effective in a great majority of patients with low-risk CDT.*

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