

Parotitis following I-131 for toxic multinodular goitre

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BACKGROUND

Radio-active iodine is used routinely and safely in the treatment of hyperthyroidism. We describe an unusual side effect after a single treatment in a patient with subclinical hyperthyroidism.

CASE STUDY

A 64 year old woman was referred to our service with multinodular goitre. She was found to have subclinical hyperthyroidism with TSH 0.17 mU/L, fT₃ 5 pmol/L and fT₄ 14 pmol/L. She underwent radioactive iodine treatment with 530 MBq of Iodine -131 in January 2017.

Two weeks following she developed left sided facial swelling with difficulty chewing. Clinical examination revealed a tender, swollen parotid gland. This settled over two weeks and subsequent ultrasound demonstrated no focal salivary gland abnormality. The clinical diagnosis was therefore of radiation parotitis.

On further questioning she has occasional bursts of increased salivary flow since, but no xerostomia or chewing difficulties.

DISCUSSION

Iodine-131 is a beta emitting isotope of iodine used intravenously or orally for the treatment of hyperthyroidism and thyroid cancer. Studies in cancer patients have demonstrated that I-131 is taken up avidly and concentrated by salivary gland tissue, particularly the parotid gland.

Sialoadenitis is a recognised complication of therapy in these patients, as well as longer term problems with xerostomia and dental caries, however this has been reported following doses of 150-200 MCi (5550-7500 MBq)¹. To our knowledge there have been no reports of sialoadenitis following standard therapy for hyperthyroidism (400-800 MBq).

We should therefore consider enquiring about symptoms of salivary gland dysfunction as part of post I-131 follow up, particularly for patients with higher or repeated dosing, in order to protect patients from longer term oral health problems.

REFERENCES

1. Klein Hesselink et al. Effects of Radioiodine Treatment on Salivary Gland Function in Patients with Differentiated Thyroid Carcinoma: A Prospective Study. *J Nucl Med* November 1, 2016 vol. 57 no. 11 1685-1691