

Radiofrequency Ablation for Benign Thyroid Nodules - Local Experience of Queen Elizabeth Hospital

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Introduction:

USG guided radiofrequency ablation (RFA) has emerged as an efficient treatment for benign thyroid nodules with desirable safety profile, and is being utilised in many overseas centres. Since Dec 2017 our institution has introduced this treatment for benign thyroid nodules in collaboration with colleagues from the Department of Surgery.

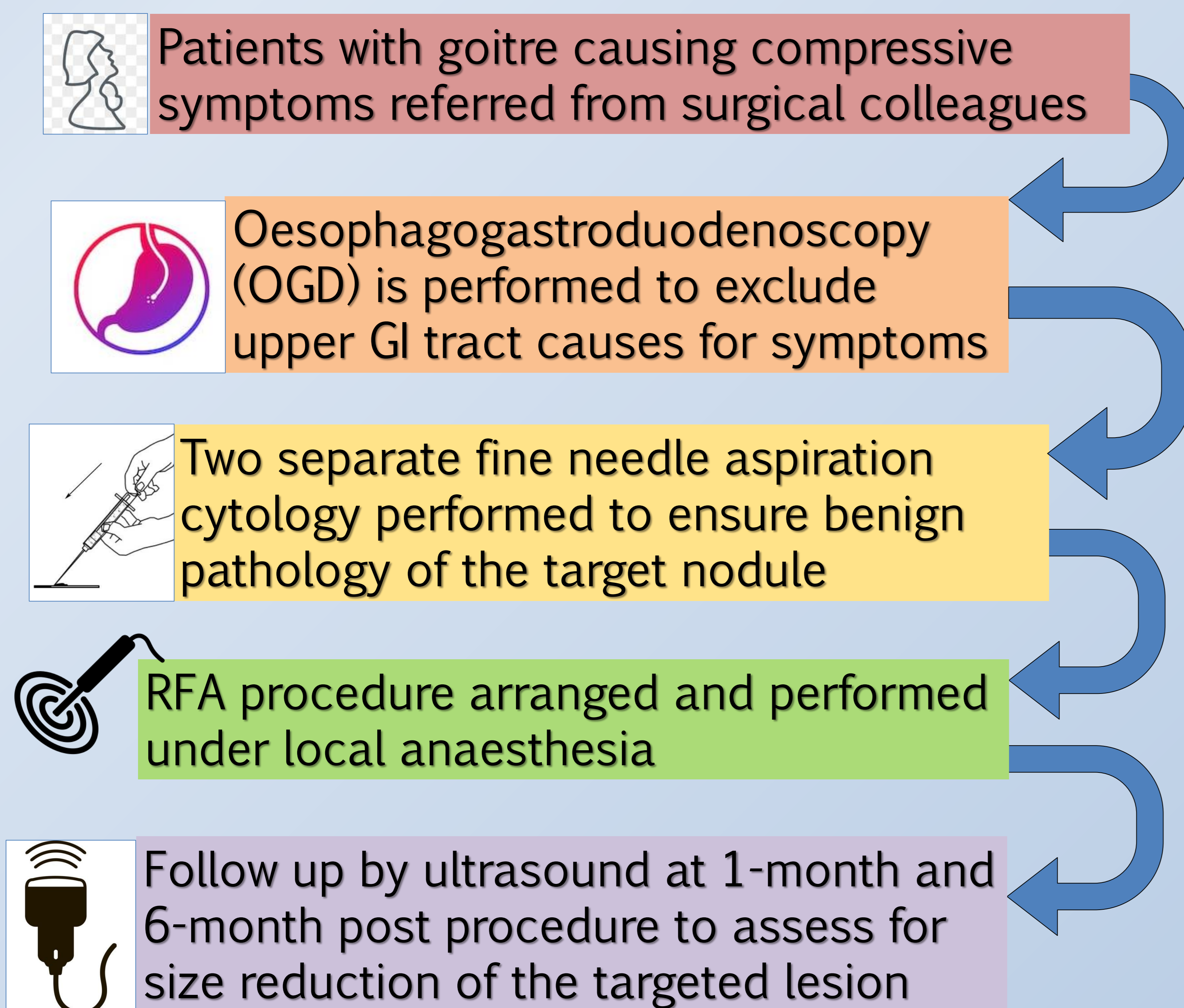
Objective:

We discuss the workflow and technical specifications involved in radiofrequency ablation (RFA) for benign thyroid nodules in our institution, and present local results on efficacy, tolerability and complications for this procedure.

Materials & Methods :

A retrospective review of 14 patients with RFA-treated thyroid nodules in Queen Elizabeth Hospital from 1 Dec 2017 to 31 May 2019 is carried out. All included patients have symptomatic nodules that are proven benign on two separate fine-needle aspirations. We evaluated percentage volume reduction, symptomatic improvement, and complications in these cases.

Workflow & Patient Selection:



RFA Thyroid Nodule Result Summary

Sex Ratio M:F	2:12, total 14 patients
Mean Age (range)	52.6 (28-72)
Median volume % reduction at 1-month FU	34.4% (25.3-57.3%)
Median volume % reduction at 6-month FU	65.1% (53.2% - 72.6%)
Complication Rate	7% (1/14)

Results :

Of the 14 patients reviewed, median thyroid nodule volume reduction after RFA was 34.4% at 1-month follow-up (interquartile range [IQR]: 25.3%-57.3%), reaching a maximum of 65.1% at 6-month follow-up (interquartile range [IQR]: 53.2%-72.6%). RFA did not affect thyroid function in all reviewed patients. Compressive symptoms are reported to have improved in all patients in our series. Complication is observed in 1 patient (1/14, 7%), who developed mild ptosis, which gradually recovered without treatment.

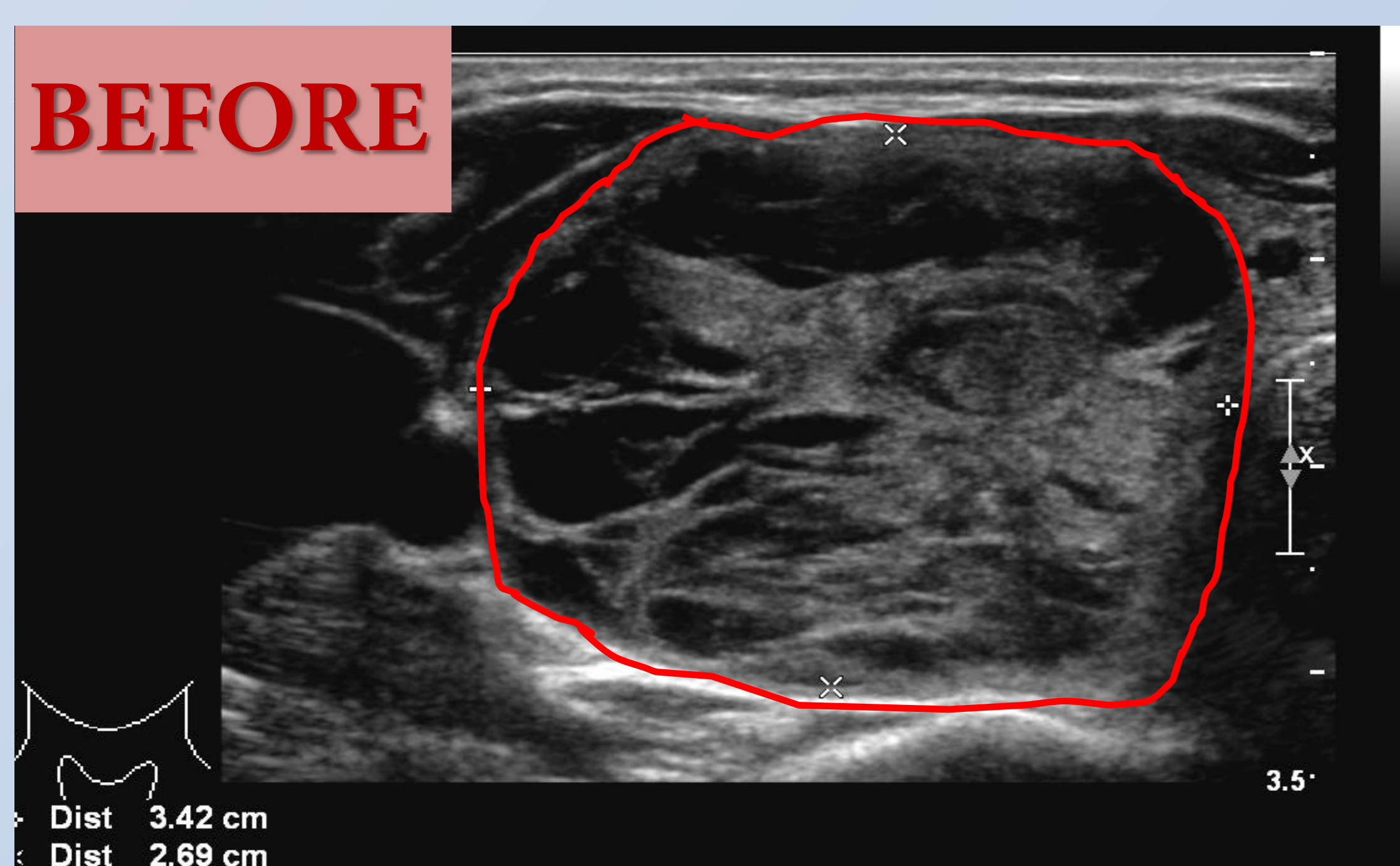


Fig.1

A mixed solid-cystic right thyroid nodule is seen on pre-RFA ultrasonography, displacing carotid artery laterally and causing worsening compressive symptoms to the patient.

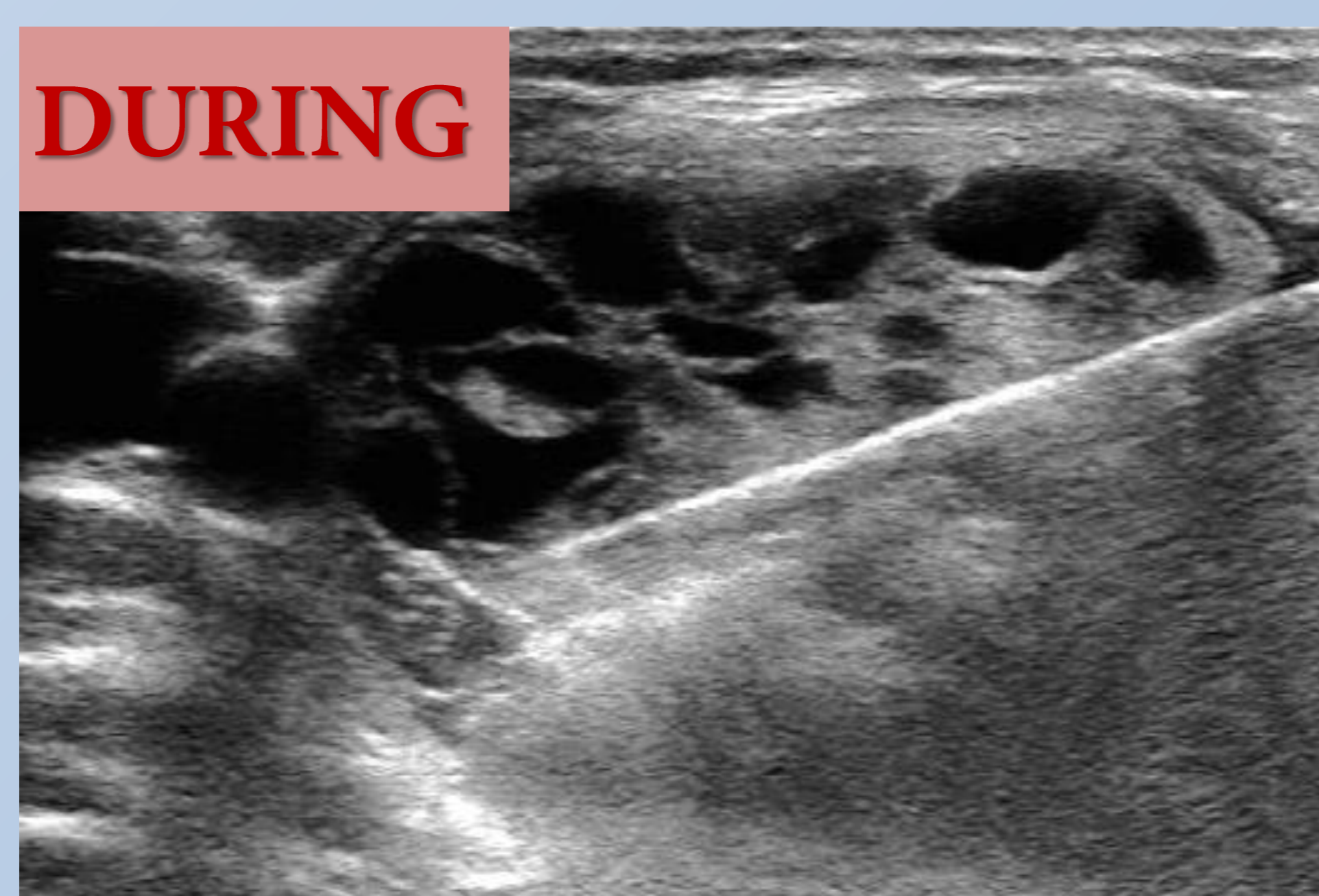


Fig.2

This thyroid nodule is tackled with a 7cm radiofrequency ablation needle with a 0.7cm ablation zone, typical for most of the lesions in our centre. Multiple ablations have to be performed.

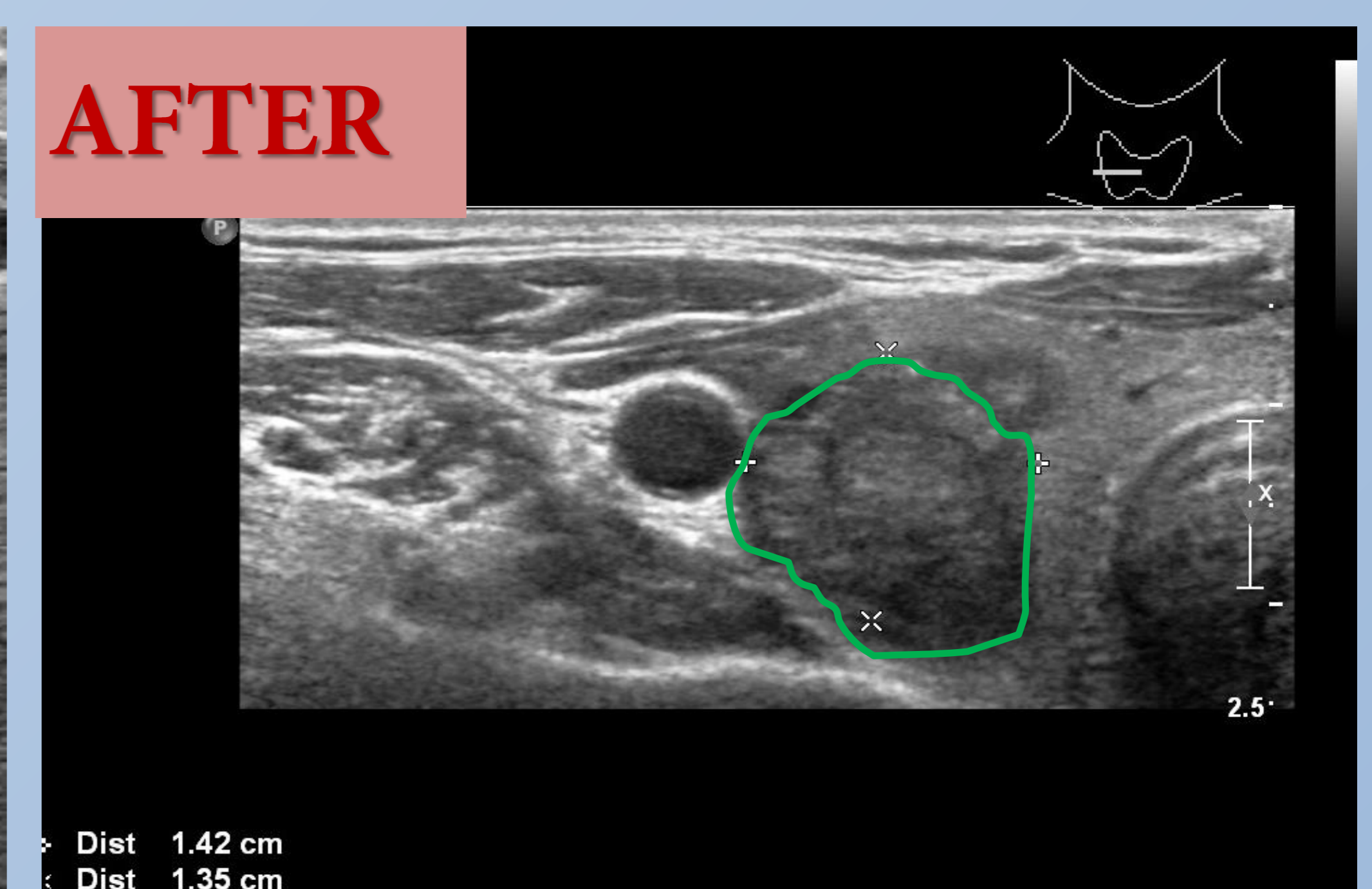


Fig.3

The size of the index right thyroid nodule has been much reduced, with maximum dimension reduced from 3.4cm to 1.4cm. Clinically patient reports resolution of compressive symptoms.

Conclusions:

RFA is shown to be efficient in inducing significant volume reduction of predominantly solid thyroid nodules and improving compressive symptoms in our case series. RFA also shows satisfactory safety profile and is a minimally-invasive and low-risk alternative to surgical excision of symptomatic thyroid nodules.