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THYROID NODULES

Long-term data show that RFA remains effective and is low risk

BACKGROUND

Thyroid nodules are common and can be seen in 30-50% of individuals who have imaging studies that include the thyroid. The concern for a thyroid nodules is whether the nodule is a cancer. Fortunately, on 5-6% of nodules are cancerous, so the vast majority of nodules are benign (not cancerous). Benign nodules are usually followed by ultrasound to monitor growth. Nodules that are either big to begin with, grow during the period of following by ultrasound or are causing symptoms are usually referred for surgery.

Radiofrequency ablation (RFA) is a relatively new and non-surgical option that has gained popularity for the management of benign thyroid nodules. RFA uses radio-wave-based heat delivered by a needle to destroy abnormal tissue or lymph nodes containing cancer. This study focuses on the long-term results of RFA use in benign thyroid nodules, including response, regrowth rates, delay in surgery, and complications.

THE FULL ARTICLE

Park SI et al. Radiofrequency ablation for treatment of benign thyroid nodules: 10-year experience. Thyroid 2024;34(8):990-998; doi: 10.1089/thy.2024.0082. PMID: 39041607.

SUMMARY OF THE STUDY

This was a study looking at data between March 2007 and December 2010 conducted at the University of Ulsan in Seoul, Korea. They followed patients treated with RFA for symptomatic benign thyroid nodules. The study only included those who had two separate thyroid biopsies showing benign results. The nodules were functioning normally (not overactive) and patients had either cosmetic or compressive symptoms related to the nodule. Patients were followed at intervals of 1, 6, 12 months and then yearly until August 2022. Outcomes included calculated volume reduction ratio (VRR) at each visit, incidence of regrowth, surgical interventions, and complications. Criteria used for cure were the lesion measuring <0.5 ml, VRR ≥90%, no vascularity inside the treated nodule, and no symptoms or cosmetic problems related to the nodule.

The study included 421 patients with 456 nodules and 759 total RFA treatments. The average VRR was 63% at 6 months, >80% at 2 years, 90% at 5 years, and 94% at ≥10 years. Cure was noted in 83 of those nodules (18%), with improvement for both cosmetic and symptomatic at ≥10 year follow-up. Regrowth occurred in 12% of the nodules over 4 years. The total complication rate was 2.4%, related mainly to vocal changes and none were severe. Thyroid surgery ended up being performed in 26 of the 421 patients (6.2%) and the average time from RFA to surgery was 7.5 years. Those who underwent surgery did so because of persistent symptoms or nodule regrowth. Surgical pathology results of the 23 RFA-ablated nodules showed 13 nodules were benign and 10 were thyroid cancers.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that RFA can be considered a safe approach to the treatment of benign thyroid nodules. Complication rates are low, and RFA is effective in decreasing the volume of the nodule, especially smaller nodules. However, imaging follow-up is required due to the risk of regrowth or surgical intervention in the future. As more data like this comes out, it is expected that more thyroid specialists will be offering RFA as an option for management of benign thyroid nodules.

— Joanna Miragaya, MD