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Radiofrequency ablation for non-functioning benign thyroid nodules in children and adolescent

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Aim: To retrospectively evaluate efficacy and safety of Radiofrequency (RF) ablation for non-functioning benign thyroid nodules in children and adolescents.

Materials & Methods: We evaluated 14 pediatric patients (M:F ratio=4:10, mean age, 15.7±2.3 [range, 12-19]) with non-functioning benign thyroid nodules (mean longest diameter, 3.7±1.1 cm [range, 2.0-5.6 cm]) who were treated with RF ablation between 2005 and 2015. The inclusion criteria for RF ablation therapy were (1) benign cytological confirmation in at least two separate fine needle aspiration and/or core needle biopsy, (2) reports of pressure symptoms or cosmetic problems caused by thyroid nodules, (3) without spiculated/microlobulated margin, microcalcification and nonparallel shape or evidence of lymph node metastasis on ultrasonography (US), (4) normal serum levels of thyroid hormone and thyrotropin and (5) follow-up periods of more than 6 months. RF ablation was performed with using a RF generator and an 18-gauge internally cooled electrode. Changes in nodules on follow-up US and complication during and after RF ablation were evaluated.

Results: The mean follow-up period was 36.9±21.7 (range, 6-69) months. At the last follow-up, the longest nodule diameter and volume significantly decreased (3.7±1.1 cm vs. 1.4±0.9 cm and 14.6±13.3 mL vs. 1.7±4.4 mL, respectively; $p<0.05$). Both cosmetic and compressive symptom scores significantly improved ((3.8±1.0 vs. 1.4±0.4 and 3.4±1.0 vs. 0.1±0.4, respectively; $p < 0.001$). Mean number of ablation sessions was 2.1±1.2. There was no major complication during and after RF ablation.

Conclusion: RF ablation could be a safe and effective treatment modality for nonfunctioning benign thyroid nodules in children and adolescents.

Biography

Min Ji Hong is pursuing her PhD at Gachon University, South Korea. She is an Assistant Professor at Department of Radiology in Gil Medical Center. She has published more than 10 papers about radiology.

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