Ultrasound-Guided Radiofrequency Ablation of a Thyroid Nodule using VirtuTRAX™

BACKGROUND

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Case:
RFA of thyroid nodule with Moving-shot Technique and VirtuTRAX

Featured Product:
VirtuTRAX Instrument Navigator

CONSIDERATION FOR USE

To monitor the electrode tip during radiofrequency ablation (RFA) of a thyroid nodule with Moving-shot Technique.

REQUIRED EQUIPMENT FOR EXAMINATION

- GE Healthcare LOGIQ™ E9 ultrasound system, Milwaukee, WI
- CIVCO VirtuTRAX Instrument Navigator, Kalona, IA
- Well-point Electrode, STARmed, Gyeonggi, Korea
- VIVA RF Generator, STARmed, Goyang, Korea

APPROACH TO EXAMINATION

During the insertion of electrode into the thyroid nodule the VirtuTRAX Instrument Navigator allowed continuous monitoring of virtual electrode tip as marked by a “V” on the screen. When we initialize thyroid RFA, the transient hyperechoic zone (echoic area formed by vaporization of nodule tissue) disturbs visualization of the electrode tip; however the on-screen guideline reveals the direction of travel with “V” representing the exact needle tip. This case demonstrated that monitoring of electrode tip using VirtuTRAX is feasible and helpful for thyroid RFA. The VirtuTRAX device could increase the accuracy and the outcome of thyroid RFA while reducing the complication rate, shortening the procedure time and learning curve. Therefore we recommend this system for the beginners as well as experts in this field.

During RFA of the thyroid, needle tip visualization can be challenging due to vaporization of nodule tissue. Use of VirtuTRAX on-screen guidelines reveals the direction of travel with a “V” ensuring confident placement. VirtuTRAX functions ideally when attached to a rigid RFA electrode.