



Figure 1

Atrial Fibrillation Ablation Guided by Computed Tomography

A 60-year-old woman with ventricular dysfunction and heart failure (functional class II-III) was referred for radiofrequency catheter ablation to treat persistent atrial fibrillation (AF). A 4-pole ablation catheter (white) was percutaneously inserted in the left atrium (LA) and a 20-pole mapping catheter (yellow) was placed to map the pulmonary veins (PVs; LS: left superior; RI: right inferior). In addition, a 4-pole catheter (blue) was placed in the coronary sinus (CS). Virtual anatomic reconstruction of the LA and PVs was carried out with a navigation system (Ensite-NavX[®], versión 7.0, St. Jude Medical; currently under pre-market assessment). The system used provided a 3-dimensional representation of the endocardial surface, marking and joining the spatial positions of the electrode catheters, according to their movement. The reconstruction was fused with the images of the LA and PVs obtained by multislice computed tomography some days before (Figure, left anterior and posterior oblique views, and

video). Subsequently, the 4 PVs were electrically disconnected by circumferential radiofrequency application at the ostia (pink circles). There were no complications, the patient has had no recurrent AF, and her functional class improved (class I) during follow-up.

More precise anatomic information about the LA and PVs obtained with new imaging techniques has contributed greatly to the advances in AF ablation. The system presented enables an understanding of the patient's specific anatomic features as well as the positioning of the catheters within the anatomic structures.

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