

BACKGROUND

Contact-force sensing (CFS) technology reduces acute electrical reconnection after pulmonary vein isolation (PVI), but its long-term clinical outcomes remain unclear.

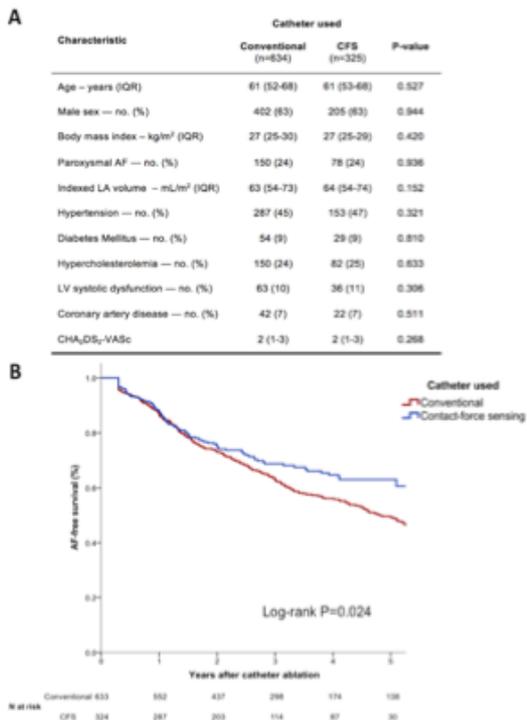
PURPOSE OF THE STUDY

To evaluate CFS technology impact in the long-term freedom from AF after a first PVI, in comparison to a conventional catheter (no CFS).

METHODS

- Single-center observational registry that included 1083 patients [age 60 years (IQR 51-67), LA volume 57 ml/m² (IQR 54-72), 67% males] with drug-resistant AF who underwent a first PVI between 2007-2015.
- Endpoint was AF/AT/AFL relapse after a 3-month blanking period.
- Thermocool*® (no CFS) and *Thermocool*® *SmartTouch*® (CFS) (Biosense Webster Inc., CA, US) catheters were compared. A minimum contact force of 10g was expected for RF application. A propensity score (PS) model was developed using CFS as the dependent variable and relevant baseline characteristics as covariates. PS probabilities in the treatment group (CFS) were matched in a 1:2 fashion to the nearest control patient (no CFS).

RESULTS



- PS matched 325 patients who underwent PVI using CFS with 634 controls, yielding well-balanced groups (Fig A).
- 102 (31%) patients relapsed in the CFS group vs 290 (46%) in control (P<0.001) - annual relapse rates 11.6%/year vs 13.5%/year, respectively (P=0.029, Fig B).
- Ablation using CFS was associated with shorter procedure [140 (IQR 111-173) vs 174 (IQR 133-219) min (P<0.001)] and fluoroscopy [17 (IQR 12-24) vs 22 (15-38) min (P<0.001)] times.
- Major complications were rare (<1.4%) and similar between both groups.

CONCLUSIONS

CFS technology seems to improve long-term freedom from AF after PVI and is associated with shorter procedures and radiation exposure.