Boston Scientific
Advancing science for life™

Atrial fibrillation cryoablation is an effective day case treatment

The UK POLARx™ vs. Arctic Front Advance™ experience

CLINICAL PERSPECTIVE

WHAT'S NEW

- This is one of the largest multicentre studies that establishes the safety, efficacy, and feasibility of same day discharge for cryoballoon PVI comparing POLARx to Arctic Front Advance.

WHAT'S IMPORTANT

- This study showed that POLARx had similar safety and efficacy to Arctic Front Advance, but that POLARx measures ~10°C colder than Arctic Front Advance. Time to reach –40°C was an independent predictor of PVI with POLARx.

OBJECTIVE

- This study aimed to establish the safety, efficacy, and feasibility of same day discharge for cryoballoon PVI between POLARx and Arctic Front Advance.

METHODS

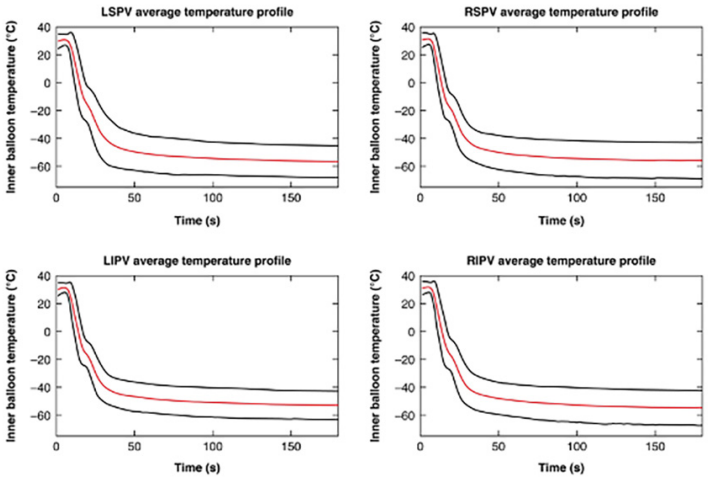
- This was a multi-centre study across 12 centres. It compared the procedural metrics, safety profile, and procedural efficacy of POLARx with the Arctic Front Advance were compared.
- 1,688 patients underwent PVI with cryoablation (50% POLARx and 50% Arctic Front Advance). All patients underwent first time ablation using POLARx.
- An equal number of consecutive patients undergoing cryoablation with Arctic Front Advance, over the same period as with POLARx, were included for the comparison analysis.
- Where there were no Arctic Front Advance cases performed over the same period, an equal number of consecutive Arctic Front Advance Cryoballoon cases were taken prior to the start of the POLARx period.

RESULTS

The main findings are:

- Contemporary cryoablation in experienced centres is a safe and effective method to achieve PVI in patients with AF, with procedural success in >99%, a major complication rate of <1%, and same day discharge in 97% of patients.
- Safety, efficacy, and procedural metrics for POLARx were comparable with that achieved with Arctic Front Advance.
- Temperature at 30s and nadir temperature achieved with POLARx were shown to be ~10°C lower compared with that reported with Arctic Front Advance.
- The time to reach ≤–40°C and nadir temperature were predictive of PVI with POLARx. (Figure 1).

Figure 1.



Red line – Mean
Black line – ± 2 std

CONCLUSION

This study shows that cryoballoon PVI is a safe, effective day case procedure. PVI using POLARx™ was similarly quick, safe, and effective as the Arctic Front Advance™.

Procedural metrics achieved with POLARx were different to that reported with the Arctic Front Advance. POLARx metrics including time to reach ≤–40°C and nadir temperature ≤–54°C were independent predictors of effective PVI.

This study notes that modified cryoablation targets are required when utilising POLARx.

Prospective testing of these targets and outcome studies are needed to define the best ablation approach with POLARx and compare it with Arctic Front Advance.

Boston Scientific
Advancing science for life™

www.bostonscientific.eu

EP-1995301-AA

CE 0123

Honarbakhsh, *et al.*, 2023 Europace 2023
https://doi.org/10.1093/europace/euad286