Impact of different ablation strategies during very high power short duration ablation: insights from the multicentric AIR HPSD registry

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Background: The very high power short duration ablation by mean of the QDOT Micro catheter was demonstrated to be safe and effective to achieve pulmonary vein isolation (PVI) in atrial fibrillation (AF) patients. Data from large multicentric registries are still lacking.

Purpose: We sought to investigate whether different ablation approaches may impact procedural outcomes. First, the hybrid approach (Qmode+, 90 W for 4 sec, at the posterior wall of the left atrium and Qmode modality AI-guided at the anterior wall) was compared to the ablation performed exclusively with the Qmode+ modality. Second, we investigated the impact of the type of anesthesia.

Methods: The AIR HPSD registry is a multicentric real world data registry including patients undergoing AF ablation by mean of the QDOT Micro catheter. The ablation modality (hybrid/ Qmode+) and the type of anesthesia were left to operators’ preference.

Results: Overall, 330 patients were enrolled, 67% males, 71% had paroxysmal AF, the mean age was 61±11. Pulmonary vein isolation was reached in 100% regardless of the ablation modality or the anesthesia used. As for the first pass isolation (FPI) there was a trend toward higher rates in the hybrid group compared to the Qmode+ group (85% vs 74%, p=0.1). No differences in FPI were found between the general anesthesia/deep sedation group and the conscious sedation group (83% vs 81%, p=0.8), however when considering the Qmode+ group solely, the FPI was significantly higher in the general anesthesia/deep sedation group (84% vs 56%, p=0.006). As for the procedural time, this was significantly shorter in the general anesthesia/deep sedation compared to conscious sedation (82±21 vs 97±35 min, p<0.01), as well as in the Qmode+ group compared to the hybrid group (80±31 vs 102±30 min, p<0.01). Minor complications were observed in 1% of patients with no significant differences between groups.

Conclusions: The PVI can be safely and effectively obtained with both approaches, hybrid or Qmode+ solely, however the rate of FPI seems higher with the hybrid one. When adopting solely the Qmode+ modality the general anesthesia increases the rate of FPI.