**Title: EHRA 24: Personalised PVI: The QDOT-by-LAWT Trial**

**Participants: Dr Giulio Falasconi**

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**Dr Giulio Falasconi**

"Hello, I'm Doctor Giulio Falasconi. The study I will talk about is a study conducted at Techno Medical Centre, Barcelona, Spain by the research group of doctor Antonio Berruezo, of which I am a member. The name of the trial is QDOT-by-LAWT trial.

**What is the importance of this study?**

The PVI, the pulmonary vein isolation is the cornerstone of atrial fibrillation ablation. Paroxysmal atrial fibrillation ablation and the very high power short duration ablation is an ablation mode that proved to be safe and effective. However, anatomopathological studies reported that the mid-lesion depth of very high power short duration ablation is around 3.5 millimeters and the left atrial wall thickness of patients with paroxysmal atrial fibrillation ranges from 0.5 millimeter to 4.5 millimeters so that very high power ablation only may not be sufficient to be transmural in all atrial left atrium regions.

So that multidector computer tomography derived left atrial wall thickness map could be useful, could be imported into the navigation system and could let us to be aware to the local left atrial wall thickness. So to switch from a very high power short duration ablation mode to a standard power radiofrequency ablation mode during the ablation.

**What was the study design and patient population?**

This trial sought to investigate the safety, the efficacy and the efficiency of left atrial thickness guided ablation protocol combining very high power short duration and standard power radiofrequency ablation in paroxysmal atrial fibrillation ablation.

We included 162 patients with paroxysmal atrial fibrillation. They were prospectively enrolled and randomized on a one-to-one based to the study group could QDOT by LAWT and to the control group close. They are all patients with paroxysmal atrial fibrillation not responding to at least one antiarrhythmic drugs. The exclusion criteria were age less than 18. Moreover, previous atrial fibrillation ablation, the impossibility to perform a pre-procedural multidector computer tomography or in contraindication to general anesthesia. In the QDOT by LAWT group, the ablation mode depend on the local left arterial thickness so that for segments with left atrial wall thickness less than 2.5 millimeters, very high power short duration ablation mode was performed while for segments of left atrium with wall thickness greater than 2.5 mm, standard power radiofrequency ablation mode was performed. In the standard power radiofrequency ablation mode, ablation index was titrated according to the local left atrial wall thickness. In the control crew, the close crew left atrial wall thickness ablation was not left at the wall thickness. Information was not available to the operator so that the ablation settings were the ablation setting of the closed protocol, an ablation index of greater than 400 for posterior wall and greater of 550 for anterior wall and so this is the differences between the two groups of the study.

**What are the key findings revealed at EHRA 24?**

In the QDOT by LAWT group report, the QDOT by LAWT arm reported a significant reduction in procedure time, reporting a medium procedure time of 40 minutes versus 70 minutes in the closed group, a significant reduction in the radiofrequency time, reporting six minutes of radio frequency time versus 25 minutes in the closed group and reporting a significant reduction in the fluoroscopy type. Moreover, there weren't significant differences in in-hospital complication rate and between the groups and there were significant differences in the pulmonary vein first pass pulmonary vein isolation rate, the left pulmonary vein and right pulmonary vein. At log rank analysis at twelve months follow-up, there were reported no significant difference in the atrial arrhythmia free survival, reporting an atrial arrhythmia free survival around 85% for both groups.

**What are your take-home messages, and what further study is needed?**

The take-home message is a first trial reporting the twelve months outcome comparing the twelve-month outcome between a very high power ablation approach and the standard of care closed control group and moreover, this is the first trial reporting the feasibility of a left atrial wall thickness guided approach combining very high power ablation mode, very high power short duration ablation mode for the thin segments and standard power radiofrequency ablation in the thick segments of the left atrium. Moreover, it was reported that the QDOT by LAWT arm is not inferior in terms of atrial arrhythmia recurrence free survival at twelve months follow-up but report a significant reduction in procedure, radiofrequency and fluoroscopy time. More recently, more and more EP labs reported that they are adapting the closed protocol utilizing high power settings so that first study could be a comparison between the proposed QDOT by LAWT arm and high power setting for PVI in patients with paroxysmal atrial fibrillation and moreover, the high efficiency reported by the trial could open the door to a comparison between the QDOT by LAWT approach and single-shot approaches for PVI ablation of paroxysmal atrial fibrillation.”