

# **The Electroanatomic Characteristics of the Cavotricuspid Isthmus: Implications for the Catheter Ablation of Atrial Flutter**

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摘要

## **Abstract**

**INTRODUCTION:** Radiofrequency ablation (RFA) of typical AFL is sometimes difficult because of the poor electroanatomic approach to the cavotricuspid isthmus (CTI). The aim of this study was to correlate the anatomy of the CTI between contact mapping (NavX) and right atrial angiography (RAG), and to investigate the impact of the electroanatomic characteristics of the CTI on the RFA of typical atrial flutter (AFL). **METHODS:** One hundred patients with typical AFL undergoing RFA were studied. The image-guided group consisted of 50 consecutive patients with the guidance of NavX. NavX geometry and RAG were performed to investigate the morphology of the CTI. The bipolar voltages of the CTI were collected during sinus rhythm by a NavX. The control group consisted of 50 consecutive patients with the guidance of conventional fluoroscopy. **RESULTS:** There was a good correlation between the angiography and NavX for the anatomy of the CTI. The pouch type had a longer length of CTI than the flat type (33.4 +/- 5.0 vs 22.6 +/- 8.4 mm,  $P < 0.0001$ ) and deeper depth than the concave type (6.5 +/- 2.2 vs 3.7 +/- 0.8 mm,  $P < 0.0001$ ) on the angiography. The pouch-type CTI had a longer ablation time and larger pulses of RFA than the other two types. The control group had a longer ablation time, fluoroscopy time, and larger pulses of RFA than image-guided group. **CONCLUSIONS:** The 3-D mapping system provided a good reconstruction of CTI, which may help in the RFA in patients with a complex anatomy of the CTI.