

題名:Consistency of complex fractionated atrial electrograms during atrial fibrillation.

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摘要:BACKGROUND Temporal variation in complex fractionated atrial electrograms (CFAEs) exists during atrial fibrillation (AF).

OBJECTIVE This study sought to quantify the variation in CFAEs

using a fractionation interval (FI) algorithm and to define the

shortest optimal recording duration required to consistently characterize

the magnitude of the fractionation.

METHODS Twenty-seven patients undergoing AF mapping in the

left atrium were studied. The FI and frequency analysis were

performed at each mapped site for recording durations of 1 to 8

seconds. The magnitude of the fractionation was quantified by the

FI algorithm, which calculated the mean interval between multiple,

discrete deflections during AF. The results from each duration

were statistically compared with the maximal-duration recording,

as a standard. The FI values were compared with the dominant

frequency values obtained from the associated frequency

spectra.

**RESULTS** The FIs obtained from recording durations between 5 and 8 seconds had a smaller variation in the FI ( $P < .05$ ) and, for those sites with a FI  $< 50$  ms, the fractionation was typically continuous. The fast-Fourier Transform spectra obtained from the CFAE sites with recording durations of  $> 5$  seconds harbored higher dominant frequency values than those with shorter recording durations (8.1  $\pm$  2.5 Hz vs. 6.8  $\pm$  0.98 Hz,  $P < .05$ ). The CFAE sites with continuous fractionation were located within the pulmonary veins and their ostia in 77% of patients with paroxysmal AF, and in only 29% of patients with nonparoxysmal AF ( $P < .05$ ).

**CONCLUSION** The assessment of fractionated electrograms requires a recording duration of  $> 5$  seconds at each site to obtain a consistent fractionation. Sites with the shortest FIs consistently identified sites with the fastest electrogram activity throughout the entire left atrium and pulmonary veins.