# Serum interleukin-17A/interferon-gamma ratio as a predictor for the severity of atrial low voltage in atrial fibrillation: from FIB-MARK study

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**Background:** Atrial fibrosis is hallmark of structural remodeling in atrial fibrillation (AF), but the inflammatory mechanism remains unclear. The purpose of the present study was to identify the specific inflammatory biomarkers to atrial fibrosis evaluated by atrial low voltage (LV) in AF patients for clarification of the mechanism.

**Methods:** Forty inflammatory biomarkers were quantified in 16 consecutive AF patients measured left atrial low voltage during catheter ablation.

**Results:** Median %LV area was 17%. In Pearson's correlation analysis, interleukin (IL)-17A and interferon (IFN)-$\gamma$ was the most significant positive and negative correlation with %LV (R=0.35 and 0.43, P$<$0.001). Furthermore, there was a significant correlation between IL-17A/IFN-$\gamma$ ratio and %LV (R=0.65, P=0.007). The area under the receiver operator characteristics curve of IL-17A/IFN-$\gamma$ ratio for significant LV (%LV $>$10% as a reference standard) was 0.88. IL-17A/IFN-$\gamma$ ratio was significantly higher in patients with significant LV than those without (1.41 versus 0.97, P=0.01), Furthermore, the sensitivity, specificity, and accuracy for detecting significant LV were 60%, 100%, and 75.0% at the cutoff value of 1.3. The event free survival from recurrent atrial tachyarrhythmias was not significantly different between patients with and without IL-17A/IFN-$\gamma$ ratio $>$1.3 (83.3% versus 80.0% at 1-year, P=0.81).

**Conclusions:** Among inflammatory biomarkers, IL-17A/IFN-$\gamma$ ratio was a significant predictor for the severity of left atrial low voltage n AF patients. Further study is needed to reveal the association between IL-17A and IFN-$\gamma$ for development of fibrosis in AF.