Inflammation plays a key role in the initiation and progression of atrial fibrillation (AF). The lymphocyte-to-monocyte ratio (LMR),comprised of the ratio of white blood cell (WBC) subgroups, has been proved to be a novel inflammatory marker for lots of cardiovascular diseases. Nevertheless, to the best of our knowledge, there is almost no study investigating the association between LMR in the peripheral blood and the survival for AF patients. In the present study, we intended to investigate whether there was a relationship between LMR and prognosis in critically ill patients with AF by utilizing the Medical Information Mart for Intensive Care III (MIMIC-III) database.

Our study investigated the association between admission LMR in the peripheral blood and risk of death among critically ill patients with AF with a 1-year follow-up. Our findings showed that that the lower LMR (≤2.67) was associated with a higher risk of 28-day, 90-day, and 1-year all-cause mortality, and might serve as a reliable predictor of mortality in AF patients. As far as we know, this is the first research to explore the correlation between LMR and mortality of AF patients.

Personalized and timely risk stratifying for each AF patient will be useful for making more precise decisions about therapeutic strategy and resource allocation. Both lymphocyte and monocyte count tests are rapid, easy, and inexpensive laboratory tests. Even under conditions without imaging or additional laboratory tests, LMR could still serve as an effective marker for quick risk assessments. In addition, in patients with AF, inflammation might be a systemic phenomenon or local process that influences the therapeutic strategies.