**Introduction** : Anemia is a common associated condition in patients with heart failure and the presence of anemia is associated with a higher mortality or hospitalization rate. The purpose of this study was to investigate the relationship between anemia and atrial fibrillation in patients with acute decompensated heart failure (ADHF).

**Methods** : We enrolled 226 consecutive patients presenting as ADHF. They were divided into four groups based on hemoglobin level at the time of admission: 68 (30.1%), 57 (25.2%), 87 (38.5%) and 14 (6.2%) patients had very low (<11 g/dL), low (11–12 for females, 11–13 for males), normal (12–15 for females, 13–15 for males) and high (>15) Hb, respectively.

**Result** : Very low Hb group showed older and higher female proportion, lower BMI, lower eGFR, higher CRP level and highest pro-BNP level. They showed the highest proportion of elevated LV filling pressure (E/E'≥15) and atrial fibrillation compared with other groups. 2-year survival rate of very low Hb group was lowest (72.6% vs. 87.8% vs. 88.0% vs. 89.8%, p < 0.05). Patients with anemia and atrial fibrillation showed the lowest survival rate.

**Conclusion** : ADHF patients with anemia showed more frequent incidence of atrial fibrillation compared with counterpart. They had a highest mortality rate. We should find the cause of anemia and correct anemia to reduce the incidence atrial fibrillation and to improve the prognosis of patients with ADHF.

**Anemia is associated with higher incidence of atrial fibrillation in patients with acute decompensated heart failure**

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