**Introduction**: Left atrial appendage (LAA) occlusion served as an alternative method for stroke prevention in atrial fibrillation has displayed an essential role in AF treatment. However, whether the procedure influenced the pathophysiology of LAA, especially the function of the neuroendocrine hormone still remains controversial. The purpose of our study was to evaluate N-terminal pro-brain natriuretic peptide (NT-proBNP) expression changes before and after the procedure in order to explore the influence of the procedure on LAA function.

**Methods**: 23 patients who underwent single LAA occlusion and without structural heart disease were enrolled in our study. Blood samples were obtained before the procedure, 24 h after the procedure and a median follow-up of 22 months after the procedure.

**Result**: There was no significant difference in the NT-pro BNP level between the pre-operation and 24h after the procedure ($P=0.706$). Furthermore, after a median follow-up of 22 months, no significant difference was also observed in the NT-pro BNP level when compared with the pre-operation NT-pro BNP level ($P=0.257$).

**Conclusion**: Left atrial appendage (LAA) occlusion didn’t cause changes in the level of NT-pro BNP level in patients with atrial fibrillation.