fibrillation in nonsurgical and unselected cardiac surgery population.

Previous available studies include both on pump and off pump CABG, lion portion of the patient was on pump CABG, so the effect of CPB and the over-manipulation of atria could not be excluded in those study groups. So, this study was constituted to evaluate the patient only underwent off pump CABG.

2. Materials and methods

1. Study design

Prospective Cohort study.

2. Place and period of study:

The study was conducted in the Department of Cardiac Surgery, National Heart Foundation Hospital and Research Institute, Dhaka Bangladesh from July 2024 to June 2025.

3. Study population

Patients undergoing off pump CABG fulfilling the inclusion and exclusion criteria.

4. Enrollment criteria:

a) Inclusion Criteria:

Patients with isolated off pump CABG and stable sinus rhythm before the intervention.

b) Exclusion criteria:

Patients with following characteristics were excluded from the study

* Patient undergoing surgery involving the mitral, aortic or tricuspid valve, the ascending aorta, the pericardium, cardiac mass, the septal myectomy.
* Patient with atrial fibrillation at preoperative 12-lead electrocardiogram
* Previous Cox's maze procedure
* Past transcatheter ablation of atrial fibrillation
* Diagnosed patient of AF controlled by drug.
* Patient with ischemic mitral regurgitation
* Congenital cardiac abnormalities
* Emergency surgery

5. Addressing ethical issues:

Keeping compliance with Helsinki Declaration for Medical research Involving Human Subjects 1964, all patients were informed verbally about the study design, the purpose of study, and right of participants to withdraw themselves from the project, at anytime for any reason, what so ever. Written consent was obtained from each subject.

6. Grouping of patients

Patients were allocated into two groups depending upon the occurrence of POAF

Group A: Patients with POAF

Group B: Patients without POAF

Echocardiographic standard examination

Each patient went under a comprehensive echocardiographic evaluation before CABG. To this end a Vivid 9 US scanner (GE medical systems, Horton, Norway) equipped with 1.5 MHz to 3.6 MHz phased array sector probe was employed. All pre operative echocardiograms was reviewed in a blind fashion by one experienced cardiologist well trained in echocardiography; divergence was resolved by consensus. Offline measurement of study variables was performed according to established methods

a) Heart chamber quantification will performed according to ASE guidelines. Left ventricular mass was calculated by Deverux formula and indexed to body surface area. Left ventricular ejection fraction was calculated using the biplanar Simpson's method.

b) LA M-mode measure:

M-mode anteroposterior linear dimension of LA was obtained fromparasternal long axis view at the end-ventricular systole, as recommended by ASE guidelines.

c) LA two-dimensional (2-D) measurements:

Two dimensional AP and longitudinal linear dimension of the LA was obtained from apical four chamber view at the end-ventricular systole. As recommended by ASE guidelines.

d) Left atrial volume:

Left atrial volume was measured by Simpson's method, obtaining optimum