Atrial Fibrillation in The Patient with Acute Coronary Syndrome: How Should it be Managed? (Case Report)

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**Introduction:** Atrial Fibrillation (AF) complicates approximately 10% of acute infarcts. Over the past 20 years, the relative mortality risk for patients with AF post MI has remained around 2.5 times that for patients without AF. The treatment of AF in the setting of MI and ACS is similar to without; however, there is often an increased urgency to limiting rapid heart rates which may exacerbate acute ischemia. This case report aims to explore how AF should be managed in the setting with co-existent ACS.

**Methods:** A 56 y.o Female presented with typical angina with onset of 3 hours prior to admission, associated symptoms were dyspnea. Patient had history of T2DM, CKD on HD, and hypertension. On physical examination: BP(160/90), Pulse(132BPM-irregular), RR(28x/minute), temp(37 degrees), rhonchi on both side of lungs. ECG showed AF RVR, ST-elevation on aVr, ST-depression on lead I, V5-V6. Laboratory results: creatinine(5.3mg/dL), ureum(260mg/dL), blood glucose(240mg/dL). Chest X-ray showed: cardiomegaly, increased broncovanvalar, and infiltrate. Digoxin, ISDN, clopidogrel, aspirin were given to the patient. The patient was put on closed monitoring and underwent fibrinolytic therapy.

**Result:** In the setting of ACS, rapidly conducted heart rates are worsening cardiac ischemia by increasing cardiac oxygen demand. Cardioversion should be considered, if heart rates cannot be controlled acutely, using Beta-Blocker, or digoxin. Ideally conversion to sinus should only be undertaken if the duration of AF can be assured to be less than 48 hours, or the patient has been on therapeutic anticoagulation for 3-4 weeks. However, if the AF appears to be life-threatening, the risks of stroke during cardioversion must be weighed against the risks of allowing rapid ventricular rates to perhaps exacerbate cardiac ischemia. Anticoagulation is often required both for the treatment of MI and possible PCI, as well as for CVA prevention from AF-induced thromboembolism. Often patient require triple-therapy for optimal treatment of both conditions.

**Conclusion:** AF may be often occurred concurrently with ACS. In this setting, rate or even rhythm controlled therapy should be deployed to terminate AF. Triple-therapy (anti-coagulant & dual anti-platelets) should be considered for the patient even though special considerations for bleeding risk must be analyzed.