TITLE of study: PREVALENCE OF UNRECOGNIZED RENAL DYSFUNCTION IN PATIENTS WITH ACUTE CORONARY SYNDROME

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Type of study: single centre

STUDY CENTRE
DEPARTMENT OF CARDIOLOGY
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PRIMARY OBJECTIVE-
UNRECOGNISED RENAL INSUFFICIENCY, DEFINED AS GFR<60/mL/min/1.73 m² in the PRESENCE OF NORMAL SERUM CREATININE, IS COMMON AMONG PATIENTS WITH ACUTE CORONARY SYNDROME. WE AIMED TO DETERMINE THE PREVALENCE OF UNRECOGNISED RENAL INSUFFICIENCY IN A POPULATION OF PATIENTS WITH CORONARY SYNDROME.

INTRODUCTION

This is to find out the incidence of recognised renal insufficiency in ACS in the south indian population and their follow up for period of 3 months

Unrecognised renal insufficiency, defined as gfr<60/ml/min/1.73 m² in the presence of normal serum creatinine, is common among patients with acute coronary syndrome.

Renal insufficiency is a strong predictor of adverse outcomes in patients with various cardiovascular conditions.

Each 10 unit reduction of the estimated glomerular filtration rate was associated with a 10% increase in the risk for death or nonfatal adverse cardiovascular outcomes.
While the assessment of renal function has been routinely based on serum creatinine, a significant proportion of patients with serum creatinine levels slightly above the upper limit of the normal range have impaired renal function, often even significant renal dysfunction.

Incidence of AKI in ACS 25%.

National kidney foundation guidelines

- Normal renal function: eGFR ≥ 60 ml/min/1.73 m²
- Recognised renal insufficiency: serum creatinine level above 1.2 mg/dl and an estimated GFR below 60 ml/min/1.73 m²
- Unrecognised renal insufficiency: estimated GFR < 60 ml/min/1.73 m² in the presence of serum creatinine ≤ 1.2 mg/dl.

**JUSTIFICATION OF STUDY**

1. The clinical manifestations of acute kidney injury (AKI) range from minimal increase in serum creatinine (sCr) to anuric renal failure requiring renal replacement therapy.

2. AKI in ACS is a multifactorial phenomenon that involves interplay among the following features: underlying renal dysfunction, negative impact of iodinated contrast, impaired cardiac output with arterial underfilling, and increased venous congestion with venous overfilling.

3. The reported incidence of ACS-associated AKI is highly variable, ranging from 5% to 55%.

4. sCr concentration is an unreliable measure of kidney dysfunction in the acute setting. When glomerular filtration rate acutely decreases, sCr rises slowly (usually within days) and may not change until about 50% of kidney function has decreased.

5. AKI impacts short-term prognosis in those with ACS. In particular, a significant progressive increase in in-hospital mortality was observed in patients with ACS between those without AKI and those with stage 1, stage 2, and stage 3 AKI (1% vs. 9.5% vs. 43%).

6. One-year mortality in patients with acute myocardial infarction is also impacted by the severity of AKI.

**PLACE OF STUDY:**

DEPT OF CARDIOLOGY, INTERNAL MEDICINE, NEPHROLOGY
GOVT. STANLEY MEDICAL COLLEGE, CHENNAI

**DURATION:** 6 months

**FOLLOW UP:** 3 months

**SAMPLE SIZE:** 100

**INCLUSION CRITERIA**
BOTH SEX
ST ELEVATION MI
NON ST ELEVATION MI
UNSTABLE ANGINA
PATIENTS WILLING FOR INFORMED CONSENT

EXCLUSION CRITERIA
ACS WITH CARDIOGENIC SHOCK
AGE MORE THAN 70 Yr

METHODOLOGY
After screening patient who fulfil inclusion criteria, willing to participate in trial and sign consent letter.

Diagnosis of acute coronary syndrome will be confirmed based on clinical, electrocardiographic, and enzymatic criteria.

The estimated glomerular filtration rate was calculated using the simplified modification of diet in renal disease formula.

The study cohort was stratified into 3 groups according to the renal function assessment (patients with normal renal function, patients with unrecognised renal insufficiency and patients with recognised renal insufficiency).

CONCLUSION

1. Our study showed that unrecognized renal dysfunction is common among patients with acute coronary syndrome and accounts for nearly forty percentage in patients with ACS.

2. Unrecognised renal insufficiency very commonly associated with poor outcomes in patients with acute coronary syndrome.

3. All-cause mortality rate at 3 months for the entire study population was 7%. Mortality rates were highest in patients with recognized renal insufficiency, followed by patients with unrecognized renal insufficiency, and were lowest in patients with normal renal function.
4. Various other causes for poor outcome in patients with unrecognized renal insufficiency have to be study.