

Role of NA/K Citrate in Prevention of Contrast Induced Acute Kidney Injury following Cardiac Catheterization

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Introduction

Contrast-induced acute kidney injury (CI-AKI) is caused by intravenous or intra-arterial administration of a contrast medium and represents one of the leading causes of acute kidney injury. Treatment of CI-AKI is exclusively supportive and different approaches for prevention of this complication have been tested.

Aim

Aim of the present study is to assess the role of Na/K citrate in prevention of CI-AKI among patients undergoing cardiac catheterization

Subjects

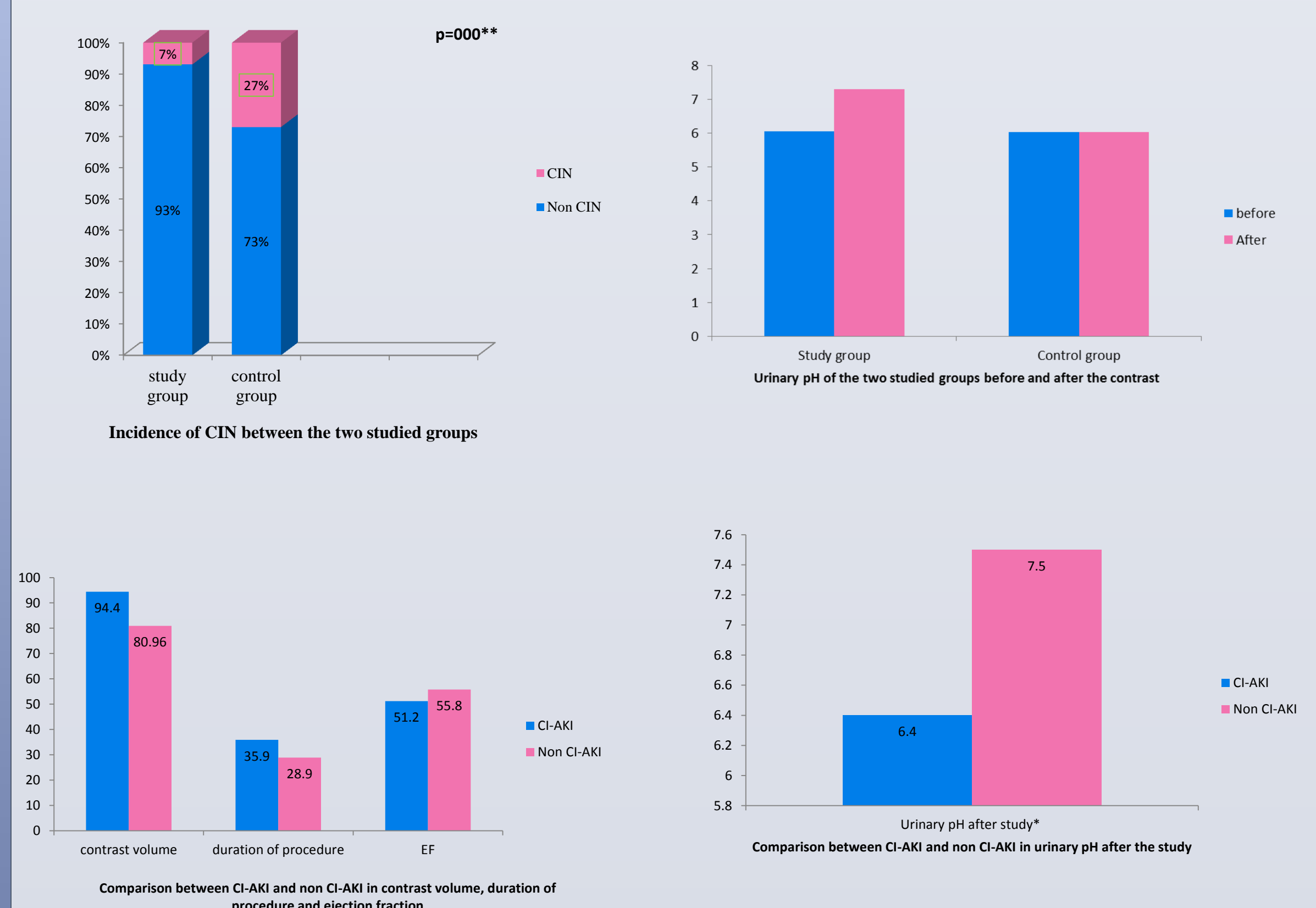
This study included 200 adult patients undergoing coronary catheterization. Patients were randomly selected on 1:1 basis and divided into two equal groups:

- Group I received the conventional preventive measures in addition to Na/K citrate (Study group).
- Group II received conventional preventive measures only (Control group).
- Na/K citrate was given in a dose of 5 gm of granules diluted in 200 mL of water one hour before the contrast material is injected and four hours after the administration of the first dose.
- The study was conducted in accordance with the ethical guidelines of the 1975 Declaration of Helsinki and an informed consent was obtained from each patient.

Methods

- Laboratory investigations included renal functions, lipid profile tests and complete urine analysis including albumin to creatinine ratio and urine PH.
- Serum creatinine level were repeated 48 hours after the intervention to diagnose the occurrence of CI-AKI.
- Echo-cardiogram was done.
- Assessment of risk score for prediction of CI-AKI.
- Catheter related factors were investigated.

Results



Conclusions

- Low urine PH, low ejection fraction, high contrast material volume and prolonged duration of the study were significantly associated with the occurrence of CI-AKI.
- Na/K citrate has a beneficial role in prevention of CI-AKI among patients undergoing cardiac catheterization.