# OFF-LABEL USE OF SODIUM ZIRCONIUM CYCLOSILICATE IN ACUTE SEVERE HYPERKALAEMIA: EVALUATION OF USE CONDITIONS AND EFFECTIVENESS

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## BACKGROUND AND IMPORTANCE

**Sodium zirconium cyclosilicate (SZC)** is approved for chronic hyperkalaemia in adults. In October 2024, our centre approved its emergency use for acute hyperkalaemia (AHK) in patients on standard therapy with serum potassium >6.5 mmol/L, ECG changes, and intolerance to ion-exchange resins.

## AIM AND OBJECTIVES

To evaluate the **conditions of use and effectiveness** of SZC as an off-label treatment in AHK.

## MATERIALS AND METHODS

**Retrospective observational study**

**Study population:** adult patients treated with SZC from October/24 to May/25 in a tertiary hospital.

**Variables analyzed:**

- Demographic, clinical, laboratory and prior treatment with hypokalaemic agents (calcium gluconate, insulin and intravenous glucose) and whether the use of ion-exchange resins was considered inadequate.
- Effectiveness was measured as serum potassium reduction in 24 hours.

*Continuous variables were expressed as median (interquartile range) and categorical variables as absolute number of cases (percentages).*

## RESULTS

**13 patients** with AHK secondary to renal failure.

**Demographics:**

- Median age 64 years
- Sex: 11 (84.6%) male

**Effectiveness*:** median potassium decreased from 6.1 to 5.26 mmol/L at 24h (median reduction 0.79 mmol/L; IQR 0.7).

*One patient was excluded from effectiveness analysis due to death before evaluation.

| Variable | n (%) |
|---|---|
| Srm potassium >6.5 mmol/L | 2 (15.4%) |
| ECG changes | 6 (46.1%) |
| Calcium gluconate prior treatment | 9 (69.2%) |
| Insulin + IV dextrose prior treatment | 8 (31.5%) |

## CONCLUSIONS AND RELEVANCE

- Adherence to local prescribing criteria was suboptimal, with a **tendency toward early initiation.**
- SZC appears to be an **effective adjunct to standard therapy in acute severe hyperkalemia** due to renal failure, achieving near-normal serum potassium levels within 24h.