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V03- ALL OTHER THERAPEUTIC PRODUCTS

# USE OF SODIUM ZIRCONIUM CYCLOSILICATE IN HYPERKALEMIC EMERGENCIES

4CPS-138

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## Background

**Hyperkalemia** (Serum potassium levels >5.5 mEq/L) **is an electrolyte alteration that can determine fatal clinical complications**, the most serious being cardiovascular and muscular. **Sodium zirconium cyclosilicate binds potassium** throughout the gastrointestinal tract reducing serum potassium levels and **increasing fecal excretion to resolve hyperkalemia**.

## Objectives

Analysis of the **effectiveness of sodium zirconium cyclosilicate** (SZC, Lokelma®) for the treatment of hyperkalemia in patients treated **in hospital emergency or in different hospitalization units** in the first 48 hours.

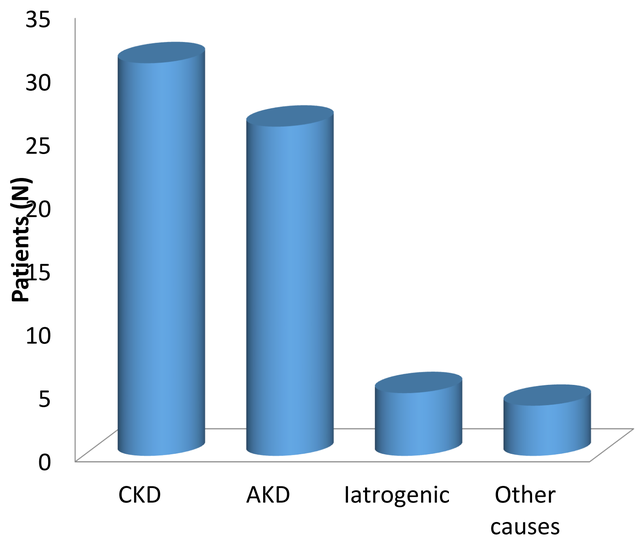
## Material and Methods

One-year retrospective and observational study was carried, including patients treated in hospital emergency or admitted with initial potassium levels ≥5.5 mEq/L who received SZC. The SZC regimen was 10 g every 8 hours orally. Serum potassium concentrations were considered normal with values between 3.3-5.1 mEq/L. The variables collected were age, sex, diagnosis of heart failure, serum potassium concentrations (at 0, 24, and 48 hours after starting treatment with SZC), the reason for hyperkalemia, glomerular filtration rate (GFR, estimated with CKD-EPI formula), concomitant drugs that could influence the hyperkalemia.

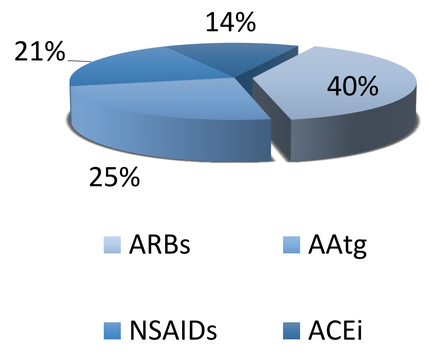
## Results

66 patients (63% men) with a median age of 79 years (41-97) were included. Heart failure was diagnosed in 27 patients (41.0%). The GFR was <60 ml/min/1.73 m2 in 61 patients (92.0%) and <30 ml/min/1.73 m2 in 41 (62.0%). The **causes of hyperkalemia** (Fig. 1) were **chronic kidney disease** (CKD) (47.0%, N=31), **acute kidney disease** (AKD) (39.4%, N=26), **iatrogenic** (7.6%, N=5) and other causes (6.0%, N=4) (Fig.1). The drugs contributing to hyperkalemia (Fig. 2) were angiotensin-receptor blockers (ARBs) (41.0%, N=27), aldosterone antagonists (AAtg) (28.8%, N=19), non-steroidal anti-inflammatory drug (NSAIDs) (24.2%, N=16), and angiotensin-converting enzyme inhibitor (ACEi) (16.7%,N=11).

**Hyperkalemia causes (Fig. 1)**

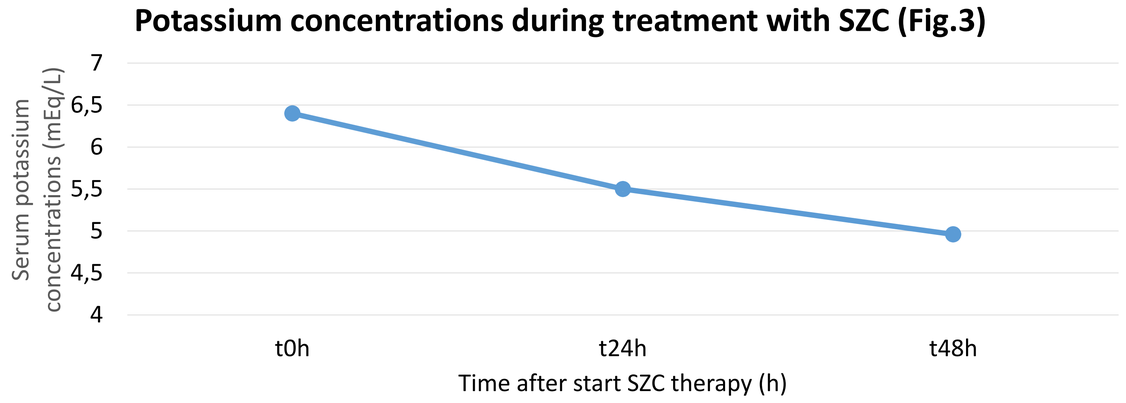



**Drugs contribuiting to hyperkalemia (Fig. 2)**




Initial serum potassium concentration mean was 6.4 mEq/L (5.5-8.2), being >7.5 mEq/L in 21 patients (32.0%). **Mean reduction in potassium concentrations at 24 hours was 14.1% (N=22) and 22.5% (N=21) at 48 hours. 24 hours after starting treatment with SZC, potassium concentrations were normalized in 33.3% (N=22) of patients and in 31.8% (N=21) after 48 hours** (Fig. 3).

**Potassium concentrations during treatment with SZC (Fig.3)**




## Conclusion and Relevance

Hyperkalemic emergencies are fundamentally associated with patients with AKD, CKD and in concomitant treatment with drugs inducing hyperkalemia. **SZC treatment is an alternative to be considered in patients with hyperkalemic emergencies**, **contributing to the normalization of serum potassium levels in first 24-48 hours after starting treatment**.

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