

# EVALUATION OF HYPERKALAEMIA MANAGEMENT IN THE EMERGENCY DEPARTMENT OF A TERTIARY HOSPITAL

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## BACKGROUND AND IMPORTANCE

Management of acute hyperkalaemia requires specific measures including:

- fast-acting therapies
- potassium-excreting therapies
- adjustment of chronic medications.

### Consensus from the Spanish Societies of

- Cardiology (SEC)
- Endocrinology and Nutrition (SEEN)
- Internal Medicine (SEMI)
- Emergency Medicine (SEMES)
- Nephrology (SEN)



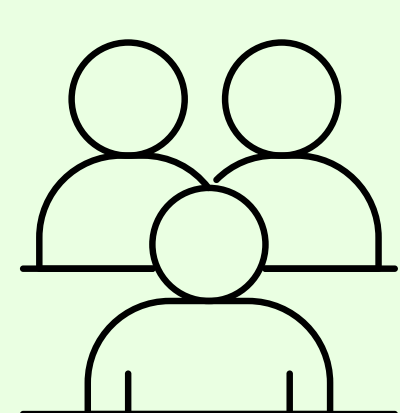
## AIM AND OBJECTIVES

1. To assess the adequacy of hyperkalaemia management according to the consensus of five Spanish Medical Societies
2. To identify areas for improvement in this management

## MATERIAL AND METHODS

Observational, retrospective study conducted in the Emergency Department (ED) of a tertiary hospital (January 2025).

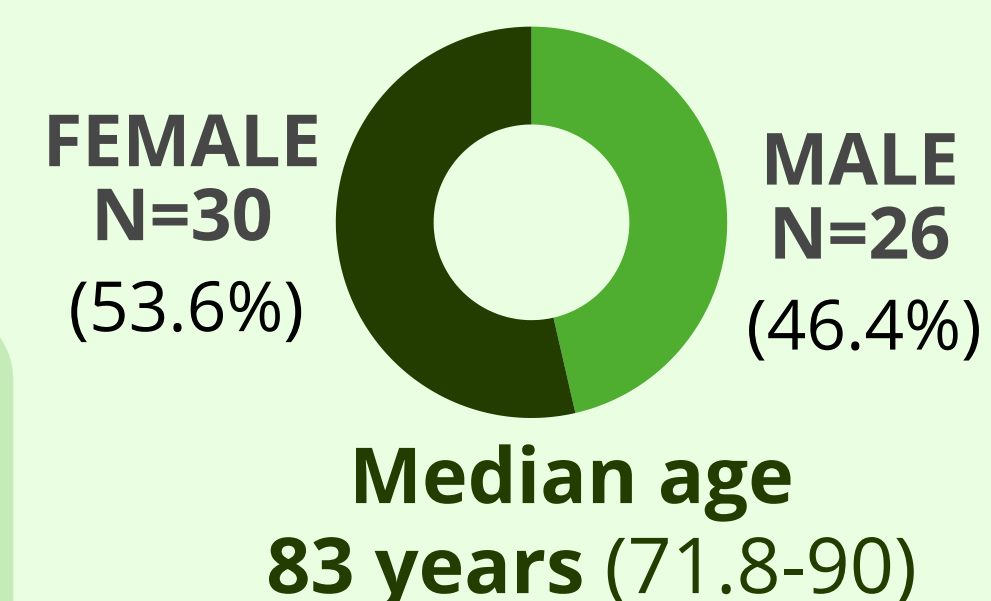
- **Inclusion criteria:** ED patients with hyperkalaemia ( $K^+ > 5.5$  mmol/L). A simple random sample of approximately 50% of eligible cases was analyzed
- **Exclusion criteria:** hyperkalaemia in a haemolysed sample
- Variables studied were:
  1. Sex
  2. Age
  3. Serum potassium
  4. Level of hyperkalaemia (mild, moderate and severe)
  5. Hyperkalaemia manifestations (muscle weakness, electrocardiogram changes)
  6. Acute kidney injury or gastrointestinal bleeding
  7. Comorbidities (heart failure, chronic kidney disease, diabetes)
  8. Chronic drugs that may increase kalaemia
  9. Time until hyperkalaemia resolution
  10. In-ED hyperkalaemia treatment



Two pharmacists and one emergency physician retrospectively reviewed the treatments. Management was considered adequate when it complied with the consensus recommendations.

## RESULTS

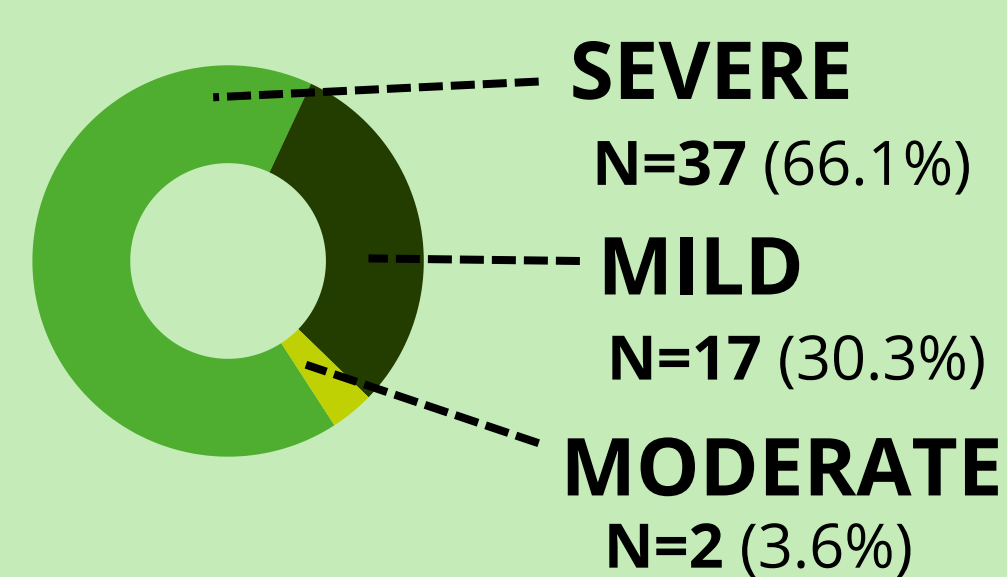
N= 142 hyperkalaemia detected → N=73 randomly selected → N=56 Included (N=17 Excluded)



### KALAEMIA

Median  $[K^+]$  at admission: 5.8 mmol/L (5.6-6.4)

11 patients presented  $[K^+] > 6.5$  mmol/L (19.6%)



### MANIFESTATIONS

ECG abnormalities (5.4%)  
Muscular weakness (1.8%)

### COMORBIDITIES

Chronic kidney failure (44.6%)  
Heart failure (41.1%)  
Diabetes (37.5%)  
Acute kidney failure (32.1%)  
GI bleeding (10.7%)

### DRUGS

44 patients had at least one active prescription

Betablockers (35.7%)  
NSAIDs (32.1%)  
Angiotensin II receptor antagonists (25.0%)  
Aldosterone antagonists (21.1%)  
ACE inhibitors (17.9%)

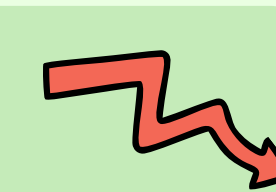
### ED MANAGEMENT

- Rapid therapies that promote cellular potassium uptake (35.7%)
- Antagonize potassium toxicity (16.1%)
- Enhance potassium elimination
  - Sodium zirconium cyclosilicate (21.4%)
  - Diuretics (16.1%)
  - Calcium polystyrene sulfonate (12.5%)
  - Haemodialysis (8.9%)

ADEQUATE N=43 (76.8%)



Subsequent tests were performed in 38 (67.9%) patients, with potassium normalising on an average of 23.2 hours.



## CONCLUSION AND RELEVANCE

In this retrospective cohort, ED hyperkalaemia management deviated from consensus recommendations in about one quarter of cases, highlighting opportunities for hospital pharmacists to optimise treatment and reinforce protocol adherence.

