

# THE IMPORTANCE AND RECOGNITION OF HYPO,-AND HYPERKALAEMIA IN PREHOSPITAL CARE

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## OBJECTIVES

The presence of potassium disorders in the prehospital care is remarkable and can lead to significant morbidity and mortality. Our aim was to describe the occurrence, treatment, the outcome and the influencing factors of hyperkalaemia and hypokalaemia. A cross-sectional retrospective study was performed anonymously.

## METHODS

The sample consisted of patients diagnosed with hypo- (n1=131) or hyperkalemia (n2=110) at the Emergency Department of the Markusovszky Egyetemi Oktatókórház between March 2021 and March 2024 following a non-random sampling technique, whose data we supplemented with the case files of the National Ambulance Service (n=185). The obtained data was evaluated by descriptive and mathematical statistical calculations (chi2 test, correlation analysis) using SPSS 26.0 software (p<0.05).

## RESULTS

Predisposing factors for hypokalaemia included hypertension (p=0.04). Higher blood glucose values (p<0.001), diabetes mellitus (p<0.001) and chronic kidney disease (p<0.001) were associated with hyperkalaemic conditions. Regarding presenting complaints, the most common symptom in the group of hyperkalemic patients was a feeling of weakness, while in the hypokalemic group, vomiting and diarrhea were the leading complaints (p=0.001).

## CONCLUSIONS

The development of unified prehospital guidelines for the treatment of dyskalemic conditions would certainly be helpful, which could greatly increase patient safety and facilitate the decision-making process of paramedics in critical situations.

Examined factors			
	Average (mmol/l)	Min. (mmol/l)	Max. (mmol/l)
Se Potassium	6.78 ±1,07	5.0	9.7
Hyperkalaemia (n=110)	Mild	25 %	
	Moderate	16 %	
	Serious	59%	

Table 1. Distribution of hyperkalemia severity (n=110)

Medical history	Percentage (%)
Heart failure	9,1
Hypertension	22,7
Diabetes mellitus	12,7
Hypertension and diabetes mellitus	17,3

Table 2. Occurrence of the most common comorbidities in patients with hyperkalemia (n=94)

Medications	Sample size (n)	Percent (%)
No medications	2	1.8
Diuretics	30	27.3
NSAID	2	1.8
Diuretics and ACE inhibitor	38	34.5
BB and ACE inhibitor	14	12.7
Benzodiazepine	4	3.6

Table 3. Occurrence of medications taken in patients with hyperkalemia (n=98)

Symptom	In hospital (%)	Prehospital (%)
weakness	40.9	26.4
dyspnoe	20.9	20.0
vomiting,diarrhea	8.2	9.1

Table 4. The most common symptoms in hospital and prehospital in patients with hyperkalemia (n=101)

ECG deviation	In hospital (%)	Prehospital (%)
Normal	13.6	5.5
Peaked T wave	30.0	1.8
Negative T wave	3.6	0.9
I. degree AV block	5.5	1.8
RBBB	1.8	1.8
JBBS	2.7	0.9
Atrial fibrillation	10.0	8.2

Table 5. The frequency of ECG abnormalities in hyperkalemic patients (n=83)

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