

Adapting the dialysis solution to the patient's needs

Alina Puscas¹, Mihai Preda², Miriunis³, Maria Teresa Parisotto³

¹Fresenius Medical Care, Fresenius NephroCare Dialysis Center, Bucharest – Romania,

²Fresenius Medical Care, NephroCare Clinical Coordination, Bucharest – Romania,

³Fresenius Medical Care, Care Value Management, Bad Homburg - Germany

Introduction

In our unit, the dialysis solution plays a major role in the dialysis session. In order to put the patients' needs first, every patient was assessed by the physician and a personalised dialysis solution prescription issued depending on the diagnosis.

Objectives

To decrease the number of incidents during dialysis sessions.

Methods

Apart from the standard solution K2*, Mg1*, Ca1.5* and Gl.0*, we use 4 additional types of dialysis solutions:

- 1.Gl.1* - in patients with diabetes, malnutrition, or hepatic metastatic neoplasm;
 - 2.Mg0.5* - in patients suffering from hyper-magnesaemia due to the magnesium-based phosphate binders;
 - 3.Ca1.25*- in patients with suspected dynamic bone disease with PTH >100;
 - 4.K3*- in hypokalaemic patients.
- (*=numbers reflect concentrations in mmol/L for K, Mg and Ca, in g/L for Gl.)

Results

Using the glucose-based dialysis solution resulted in a decrease of the number of hypoglycaemic incidents and thus the glucose consumption for hypoglycaemia treatment. The PTH level has increased to normal values in patients dialysed with Ca 1.25 solution. In patients with Mg 0.5 solutions, the risk of bradycardia, cardiorespiratory arrest, muscular weakness, paralysis, dizziness and confusion, depression of the state of consciousness decreased. Neuromuscular disturbances and cardiac arrhythmia decreased in patients receiving K3 dialysis solution.

Conclusion

There are numerous advantages of adapting the dialysis solution to the patient's individual needs, although it is more demanding for the medical staff. The number of dialysis-related adverse incidents has decreased making treatment safer for the patients.



Figure 1: Cds-standard dialysis solution



Figure 2: Dialysis solution according to medical prescription