

FLUID BALANCE EVALUATION IN A LARGE POPULATION OF HEMODIALYZED PATIENTS

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Fig. 1. Left Ventricular Hypertrophy and Hypertension

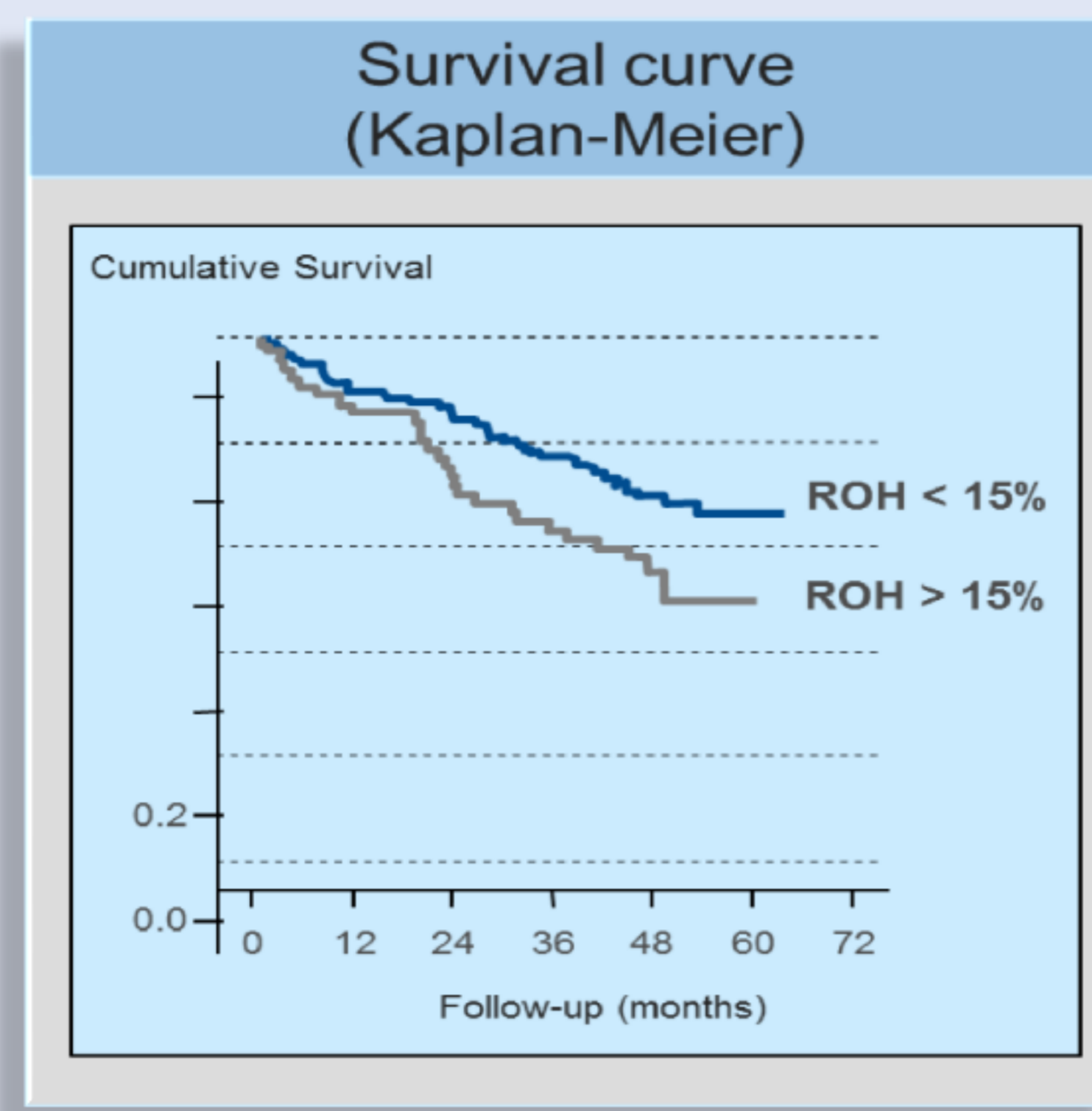


Fig. 2. Cardiovascular mortality and ROH <15% vs ROH >15%³

Background

Despite continuous improvement in quality of dialysis therapy, cardiovascular disease (Fig.1) remains the first cause of death in dialysis patients^{1,2}. Avoiding chronic fluid overload by reaching ROH<15% (Relative Overhydration as percentage of extracellular water) may reduce secondary hypertension, left ventricular hypertrophy and cardiovascular mortality (Fig.2)³. Clinical fluid management is facilitated by a device that allows the objective measurement of patient hydration state via multi-frequency bioimpedance spectroscopy in a rapid and non-invasive way.

Objective

Implementation of a Fluid Management Program in all dialysis units of NephroCare Italy, reaching a target of 60% of patients with a controlled hydration status. Train physician and nurse trainers on BCM use and data evaluation.

Methods

In order to properly implement a Fluid Management Program in all the dialysis units of NephroCare Italy, a training program on the Fresenius Medical Care Body Composition Monitor (BCM) use for all physician and nurse trainers was performed. This addressed how to use the BCM correctly which requires patients' height and weight control, patient in supine position for 2 minutes with limbs at 45 degrees from the trunk in absence of contact with metal objects and correct position of the electrodes, the correct way to evaluate results and how to organize a fluid management program. In a period of one year, all patients underwent BCM analysis every month, monitoring their hydration state to obtain an average weekly ROH of < 15%.

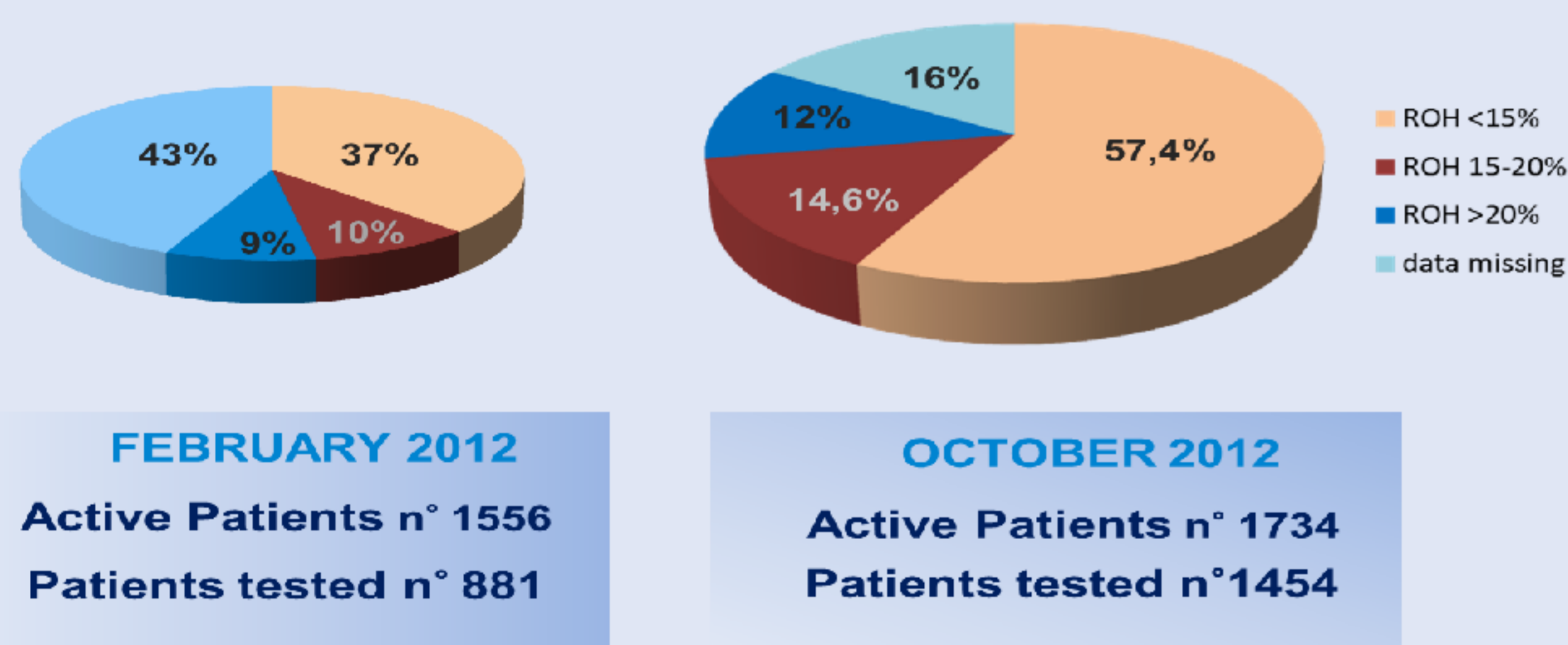


Fig. 3. Percentage of patient with controlled Hydration State from february 2012 to october 2012

Results

Implementation of a Fluid Management Program using the BCM resulted in an increase of patients with controlled hydration state from 37% in February 2012 to 57.4% in October 2012 (Fig. 3). The experience gained in the implementation of the training program demonstrated the importance of efficient training to obtain correct measurements of hydration state.

Conclusions

Continuous monitoring of patients' hydration state with proper training in use of the BCM and subsequent adaptation of dialysis prescription helps achieve dry weight.

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