

ABSTRACT

DISSERTATION ON SERUM MAGNESIUM LEVEL IN CRITICALLY ILL PATIENTS

AIM

To study the level of Serum Mg in critically ill patients admitted in Intensive medical care unit and correlating the outcome with APACHE II scoring.

MATERIALS AND METHODS

I have done a prospective observational study in 100 critically ill patients admitted in a Intensive medical care unit, Government Stanley Medical College & Hospital during the period of March 2016 to September 2016. Acute Physiology And Chronic Health Evaluation (APACHE II) score have been calculated for each patient on the day of admission to Intensive care unit. Critically ill adult patients aged more than 18years were included.

Written and informed consent was obtained from all patients. Patients who had received blood products, magnesium or calcium infusions before sampling have been excluded from the study. Inclusion of the patients in this study did not affect the routine patient care in the IMCU. Venous blood samples of around 4.5ml was taken to assess serum magnesium levels, within the first 24hours of admission in to the IMCU.

Patient details recorded were:

Age, gender, presenting symptoms and signs, diagnosis, relevant investigation reports, treatment, duration of stay in IMCU, any complications thereof, use of mechanical ventilation and its duration.

Patients were followed up till discharge or death. The final analysis is made at the end of the study to achieve the aforementioned goals.

Inclusion criteria:

1. Critically ill adult patients above the age of 18 years, admitted in IMCU.
2. with APACHE II score of 18 or more.

Exclusion criteria:

1. Patients who had received blood products.
2. Patients who had received magnesium infusion.
3. Patients who are not willing to participate in this study.

Results:

There was significantly increased rate of death in hypomagnesemic patients 59% compared to normal magnesium patients.

11(21%) patients had delayed recovery in hypomagnesemic patients compared to normal magnesium patients 9(19%).

Rate of recovery patients was higher in normal magnesium patients 20(42%) than hypomagnesemia patients 2(4%)

Hypomagnesemic patients had statistically significant difference in PCV values ($p < 0.0105$) when compared to normomagnesemic patients.

Hypomagnesemia patients had higher acute physiological scoring, chronic health point and total score.

Hypomagnesemic patients had significant hyponatremia. No statistically significant difference between both groups with respect to potassium and serum creatinine. Hypomagnesemic patients had significantly lower temperature than patients who had normal magnesium levels.