Evaluation of the Prevalence of Hypomagnesemia in the First 24th Hour after Selective Operations in Intensive Care Unit Patients

ABSTRACT

Aims Hypomagnesemia is observed in 15-10% of patients admitted to the hospital and in 40-60% of intensive care units patients. This study was done to investigate the prevalence of hypomagnesemia in patients undergoing elective surgery in the first 24 hours of hospitalization.

Materials & Methods In this interventional cross-sectional study, 60 patients undergoing elective abdominal surgery with general anesthesia and were admitted to the ICU were selected using simple sampling method. Age, gender, height, weight, body mass index (BMI), SAPS number, the probability of mortality based on SAPS, sodium, total magnesium, calcium, potassium and plasma phosphorus levels within 24 hours of hospitalization and the total urinary excretion of magnesium in the first 24-hour of hospitalization at ICU was measured and recorded. Independent T and Chi square tests were used for statistical analysis.

Findings Serum magnesium, sodium, potassium, calcium and phosphorus and demographic characteristics (age, gender, weight, height and BMI), did not show any significant correlations with total magnesium deficiency of body after loading of magnesium dosage. Also there was no significant correlation between total magnesium deficiency of body after loading of magnesium dosage loading and the duration of being at ICU. But there was a significant difference in total magnesium deficiency of body after dosage loading of magnesium with expected mortality rate of patients using SAPS parameter (p=0.013).

Conclusion Magnesium Serum level is an unreliable indicator of hypomagnesemia. The greater the total magnesium deficiency of the body, the worse the prognosis is.

Keywords Intensive Care Unit (ICU); Hypomagnesemia; Hypermagnesemia

CITATION LINKS

Mortality of ICU patients due to Acute Kidney Injury

ICU mortality due to Acute Kidney Injury (AKI) is significantly higher than that of patients with normal renal function. AKI is defined as a rapid increase in serum creatinine (SCr) levels or a decrease in urine output (uria) within 48 hours. The SCr level is used to assess kidney function and is calculated as follows:

SCr = (Creatinine) / (0.85 + (0.91 * Age))

where Creatinine is the concentration of creatinine in the plasma, and Age is the age of the patient in years. The formula for calculating SCr is given by:

SCr = (Concentration of Creatinine in Plasma) / (0.85 + (0.91 * Age))

The mortality rate of ICU patients with AKI is higher than that of patients with normal renal function. The incidence of AKI is higher in patients with severe sepsis and septic shock, and the mortality rate is higher in patients with AKI and severe sepsis or septic shock. The mortality rate of ICU patients with AKI is also higher in patients with multiple organ failure and sepsis. The mortality rate of ICU patients with AKI is higher in patients with severe sepsis and septic shock, and the mortality rate is higher in patients with AKI and severe sepsis or septic shock. The mortality rate of ICU patients with AKI is also higher in patients with multiple organ failure and sepsis.

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مواد و روش‌ها

این بررسی مقطعی مداخله‌ای در مهرماه ۱۳۹۲ به دست مراجعین بیمارستان‌های عمومی و غیرمربوط به بیمارستان انجام شد. هدف اصلی این بررسی بررسی تأثیر کمبود SAPS ۲ در بیماران بستری بیمارستان‌های عمومی بود. بنابراین ابزاری برای اندازه‌گیری کمبود SAPS ۲ در بیماران بستری بیمارستان‌های عمومی باید را مطابق با عوامل محیطی بیمارستان و عوامل پزشکی بیمار باید باشد. بنابراین ابزاری برای اندازه‌گیری کمبود SAPS ۲ در بیماران بستری بیمارستان‌های عمومی باید را مطابق با عوامل محیطی بیمارستان و عوامل پزشکی بیمار باید باشد.


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