

Low protein intake on 4th day of hospital stay is indicative of hospital stay of more than 10 days

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Rationale

Hospital patients at risk of malnutrition are being referred for nutritional therapy and require a protein intake on day 4 of more than 1.2 g/kg per day. However, what is the prognostic value of protein intake on day 4 of hospital stay?

Methods

Data from 147 VUmc patients with a SNAQ score of 3 or more (malnourished) were obtained for analysis. Logistic regression analysis was used to evaluate the relationship between protein intake on day 4 and length of hospital stay (LOS) of more than 10 days. Odds ratios (OR) were adjusted for: age, sex, BMI below 18.5 kg/m², number of clinical investigations on first 4 days of hospitalization, type of ward, use of sip feeding, use of tube feeding, more than 90% of energy goal reached.

Results

Figure 1 shows that for 74% of patients protein intake was less than 1.2 g/kg per day. For 4 patients use of tube or sip feeding was not known and 4 patients received both (n=147-8=139).

Figure 2 shows that the adjusted odds ratio for length of hospital stay of more than 10 days was about 3 for protein intake on day 4 of less than 1.2 g/kg per day (2.96, 95%CI 0.72-12.2, p=0.133).

For 18% of patients protein intake was less than 0.2 g/kg per day, and the adjusted OR for LOS >10 days was about 5 (4.87, 95%CI 1.55-15.3, p=0.007; univariate OR 2.87, 95%CI 1.08-7.65, p=0.035).

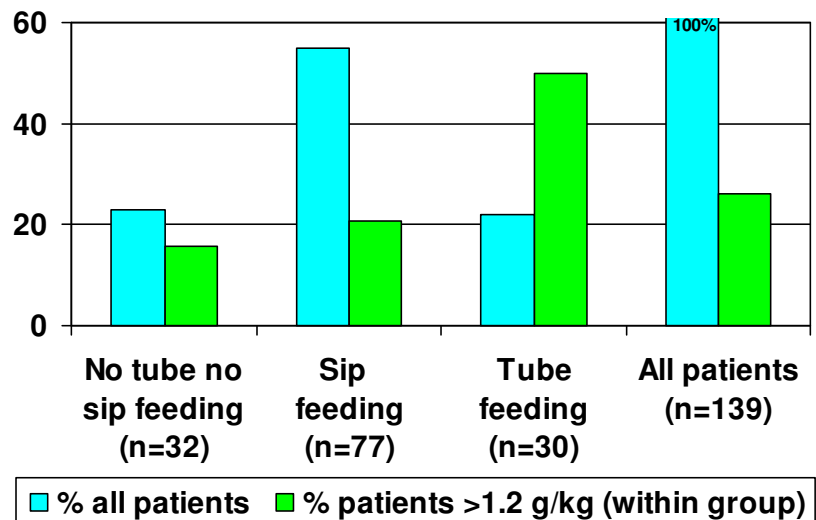


Figure 1. Percentage of patients with protein intake of more than 1.2 g/kg per day.

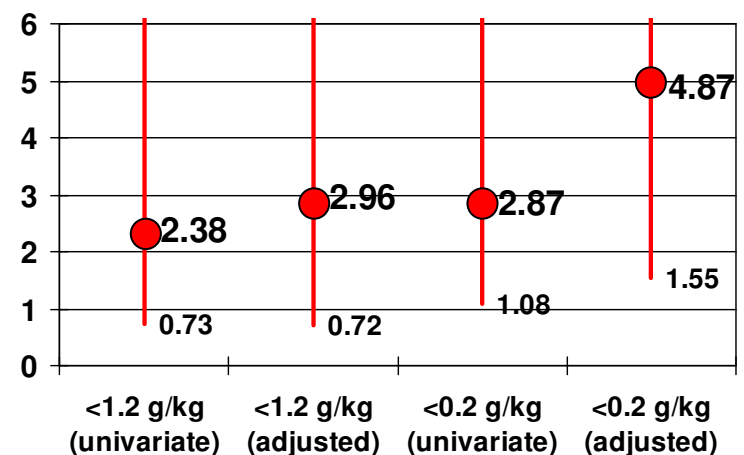


Figure 2. Odds ratios for length of hospital stay of more than 10 days.

Conclusions

A protein intake of less than 1.2 g/kg per day might indicate longer hospital stay, but was not statistically significant. A protein intake lower than 0.2 g/kg significantly increased odds 5x. Most patients received sip feeding as part of nutritional therapy, however only tube feeding significantly improved the proportion of patients reaching dietary protein goals.