Hypophosphatemia in a specialized intestinal failure unit: an observational cohort study

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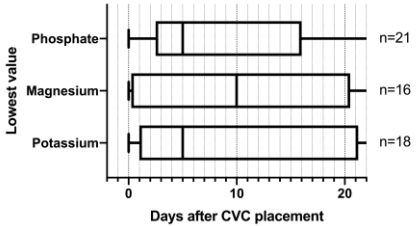
Background

Patients with intestinal failure (IF) are prone to hypophosphatemia and other electrolyte shifts with parenteral nutrition (PN) commencement; this is often attributed to refeeding syndrome[1].

We evaluated the occurrence of hypophosphatemia and other shifts according to the European Society for Clinical Nutrition and Metabolism (ESPEN) endorsed IF classifycations.



Methods

We included all patients admitted to an IF unit from 2013 through 2017.

Electrolyte shifts were defined as[2]:

- severe hypophosphatemia <0.6 mmol/L (mM)

or any two other of the following:

- hypomagnesemia <0.75 mM,
- hypophosphatemia <0.8 mM,
- hypokalemia <3.5 mM.

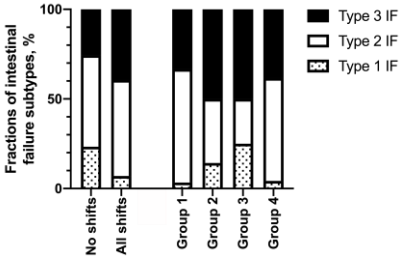
Definitions (mmol/L)	Group 1 (n=30)	Group 2 (n=14)	Group 3 (n=8)	Group 4 (n=47)
P < 0.60	+	–	–	–
P < 0.80	–	+	+	–
Mg < 0.75	–	+	–	+
K < 3.50	–	–	+	+

Outcomes included length of stay, central line-associated blood stream infection, and other infections.

Results

Of 236 patients with IF, electrolyte shifts occurred in 99 (42%).

In patients who started PN, up to 62% of early onset shifts (<5 days) related to refeeding, and up to 63% of late onset (≥5 days) could be ascribed to infections.

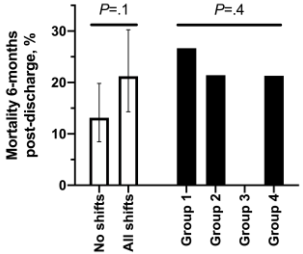


Shifts occurred in 53 (43%) with type 2 IF, and 39 (53%) readmitted with type 3 IF. Sixty-five (49%) of 133 patients with short bowel syndrome developed shifts.

Conclusion

In patients with IF, electrolyte shifts are frequent but not always due to RFS.

Electrolyte shifts are common in patients with type 2 IF and those readmitted with type 3 IF.



References

[1]Crook et al. *Nutrition* 2014;30:1448-1455.
[2]Reber et al. *J Clin Med* 2019;8:2202.

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