HYPOPHOSPHATEMIA AFTER FERRIC CARBOXYMALTOSE ADMINISTRATION IN A COHORT OF ELDERLY PATIENTS WITH HIP FRACTURE

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Background and Importance

Hypophosphatemia after intravenous ferric carboxymatose (FCM) is a well-documented adverse reaction. However, there is scant evidence about its prevalence among elderly patients with hip fracture, a complex polymedicated pluripathologic population exposed to these formulations in perioperative care.

Aim and Objectives

- To identify the incidence of hypophosphatemia in patients over 65 years old treated with FCM in the context of hip surgery.

Materials and Methods

- Observational retrospective study.
- Patients: diagnosed with hip fracture and treated with FCM, who were admitted to the Orthogeriatric Unit of a tertiary hospital.
- Study period: from June 2023 to August 2023.
- Variables collected from medical records:
  - *Biodemographic data*: sex, age, hospital stay, FCM dose received.
  - *Analytical data*: phosphate, hemoglobin, parathormone, cholecalciferol, glomerular filtration rate.
- Categorical variables: counts and percentages.
- Continuous variables: medians and interquartile ranges.

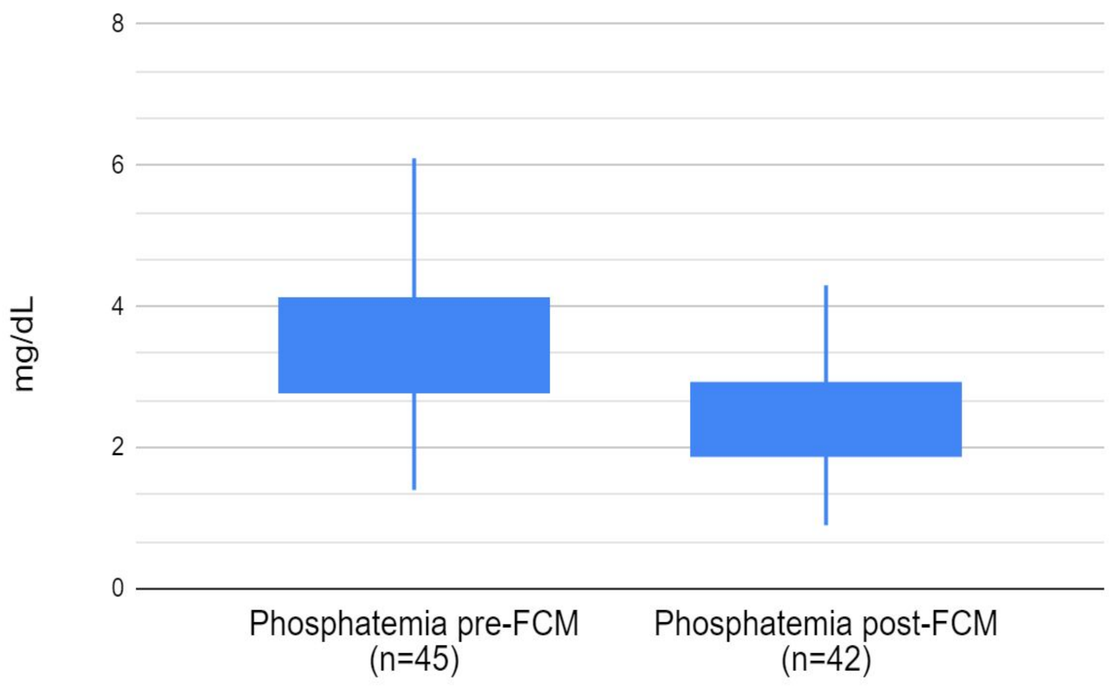
Results

- 65 patients were included (51/65 [78.5%] women, 88±7 years old), with a median hospital stay of 13 [11-20] days.
- Total doses used: 500 mg (69.2% of patients), 1 g (24.6%) or higher.
- Gathered data shows elevated parathyroid hormone, low cholecalciferol levels, and an altered glomerular filtration rate.
- 28 patients had both pre- and post-iron administration phosphate levels measured:
  - 21 (75%) experienced a phosphate level reduction with a mean change of -36.4 [19.1-51.4]%
  - After FCM administration, the number of patients with low phosphate levels (<2.5 mg/dL) increased from 5 (17.9%) to 12 out of 28 patients (42.9%).
  - None of them showed any relevant clinical signs associated.

Variable	n	Median [P25-P75]
Before iron administration:		
Phosphate (mg/dL)	45	**3.5** [2.8-4.1]
Hemoglobin (g/dL)	46	**10.3** [9.1-11.4]
Parathormone (pg/mL)	35	**86.4** [59.2-103.5]
Cholecalciferol (ng/mL)	37	**23.2** [13.6-33.9]
Glomerular filtration rate (ml/min/1.73 m2)	46	**56** [32-77.8]
After iron administration:		
Days between iron administration and phosphate determination	42	**6.5** [3.0-9.8]
Phosphate (mg/dL)	42	**2.6** [1.9-2.9]

Table 1. *Overall analytical treatment-related data collected before and after FCM*

Phosphate levels before and after FCM administration (table 1)



Conclusion and Relevance

Potential correlation between decreased blood phosphate levels and FCM administration.

Hyperparathyroidism and vitamin D deficiency may also influence this outcome.

Phosphatemia monitoring and phosphate supplementation are measures that need to be considered in order to reduce possible clinical consequences.

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