


BACKGROUND A security alert about the possibility of a potentially fatal interaction in patients, especially neonates, was reported by FDA. Patients treated with ceftriaxone and concomitant total parenteral nutrition (TPN), are potentially at risk of pulmonary or intravascular precipitation due to ceftriaxone-calcium complex.

METHOD / RESULTS

Study period: 2010 March – 2011 May.
Inpatients that required calcium supplemented TPN and concomitant administration of ceftriaxone were selected from:

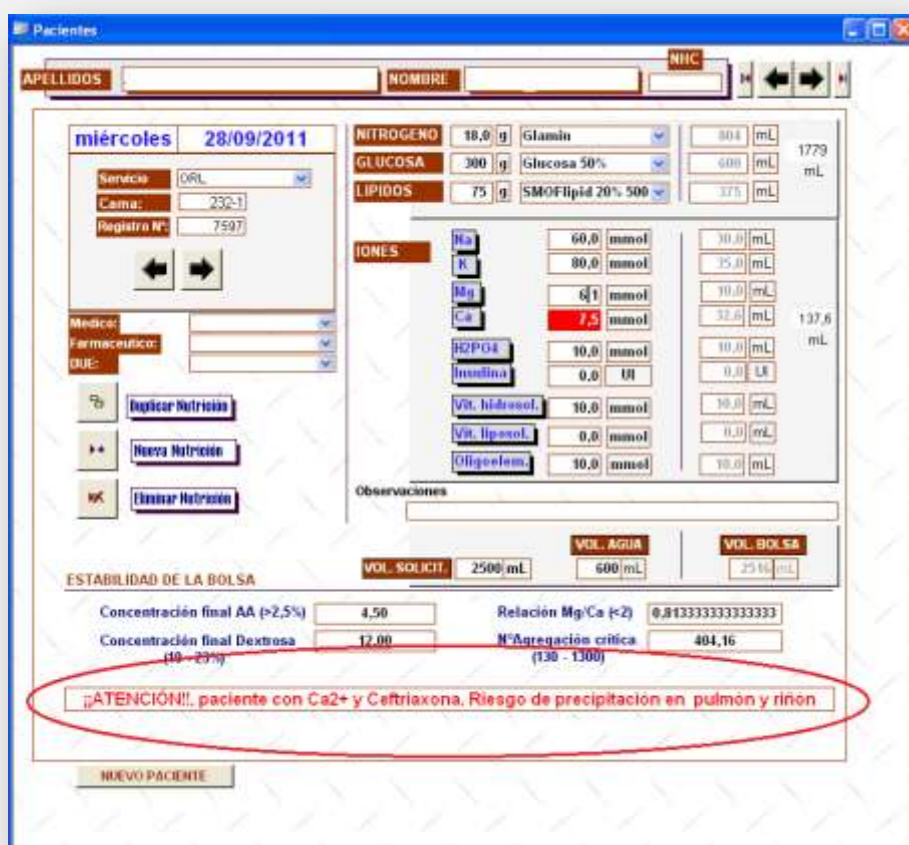
CPOE (Farmatools®): Patient's treatments



15.495 hospitalized patients

1.044 received ceftriaxone 1g IV/IM and 2 g IV

Own designed application (MSAccess®): TPN patients requirements, including neonates



Real-time ceftriaxone-calcium interactions during TPN prescription

Farmatools® medication database and pharmacist TPN application were associated using ODBC.

- 838 total parenteral nutritions elaborated.
- 85 patients.
- 16 patients (18.8%), none of them neonate, were detected with TPN and ceftriaxone at the same episode:

- 10 mismatched administrations over time.
- 6 (7%) concomitantly, susceptible of suffering the described interaction

Medical-Digital-Health-Record (Diraya®)



None of the 6 patients showed clinical complications arising from such interaction (administration complications or symptoms of intravascular or pulmonary precipitation).

PURPOSE The aim of this study was to assess patients with TPN potentially at risk of suffering calcium-ceftriaxone interaction, its clinical significance in our hospital, and to develop a software tool for real-time detection.

The clinical impact of calcium-ceftriaxone interaction in patients on total parenteral nutrition

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CONCLUSIONS

- Less than a tenth part of TPN patients were susceptible of suffering ceftriaxone-calcium interaction in our hospital.
- No neonates were exposed to risk.
- None of the patients had clinical complications due to this interaction.
- Pharmacist TPN application was updated for real-time detection.