The Disproportionate Analysis of Intravenous Iron-containing Medicines Related Adverse Reactions in Taiwan.

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Disclosures

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Background

Intravenous iron-containing medicines are the primary treatment for iron deficiency anemia patients who are intolerant or failure to oral therapy[1]. All intravenous iron-containing products have the risk of causing hypersensitivity reactions which can be life-threatening if not treated properly. In June 2013, the EMA gave new recommendations to manage the risk of allergic reactions of these products[2].

Objectives

To examine the disproportional reporting ratio of intravenous iron-containing medicines related adverse reactions.

Methods

By using Taiwan National ADR Reporting System database, we reviewed all ADR reports related to intravenous iron-containing medicines from July 2008 to June 2013. The drug-reaction pairs were coded with WHO-ATC code and MedDRA dictionary. Signals of disproportional reporting were identified by Proportional Reporting Ratio (PRR) method at MedDRA preferred term (PT) level. Signals were defined as the lower bound of the 95% confidential interval (95% CI) of PRR $\geqq$1 and the number of reported cases $\geqq$3.

Results

We identified 116 ADR cases associated with intravenous iron-containing products in the database during the study period, including 88 (76%) females and 28 (24%) males. Among these cases, the most frequently reported reactions were dyspnea (8%), followed by rash (7%), rash pruritic (7%), injection site pain (6%) and pruritus (5%). The disproportionate analysis identified 18 signals, where anaphylactoid reactions (PRR=92.7, 95% CI=39.1-219.8, n=4), injection site pain (PRR=44, 95% CI=27-71.7, n=11), pain (PRR=23.2, 95% CI=8.9-60.1, n=3) , and injection site reaction (PRR=18.8, 95% CI=8.3-42.7,n=4) appeared to be stronger signals during the study period.

Conclusions

The disproportionate analysis of intravenous iron-containing medicines related ADR reports indicated that anaphylactoid reaction was a potential safety signal in Taiwan, which was corresponded with the EMA warnings[2]. Our findings provided essential information for further signal refinement and management activities.

Reference

1. Clark SF. Iron deficiency anemia. *Nutr Clin Pract.* 2008 Apr. ; 23(2): 128-141.
2. European Medicines Agency: New recommendations to manage risk of allergic reactions with intravenous iron-containing medicines. EMA/377372/2013.

Figure 1. The identified signals of disproportionate analysis for IV iron-containing medicines related adverse reactions (displaying the PRR Confidence Interval, y-axis is in logarithmic scales)