The Prince Charles Hospital

What do clinical incidents tell us about iron staining?

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Background

Iron extravasation resulting in staining is a rare but significant adverse effect from intravenous iron therapy.

Aims

1. To determine how iron extravasation presents to inform strategies to minimise harm through early intervention if extravasation occurs.
2. To determine the incidence of iron staining.

Methods

All medication clinical incidents reported for iron formulations between 2016 and 2020 in the hospital-wide clinical incident reporting system were reviewed. The description entered by the incident reporter was assessed by an experienced pharmacist.

Incident reports were classified as:

- a staining incident
- a potential staining incident
- not a staining incident

A staining incident was confirmed where the incident report included staining or skin discolouration within the report.

Further analysis of the presence of specific adverse effects suggesting potential extravasation was assessed.

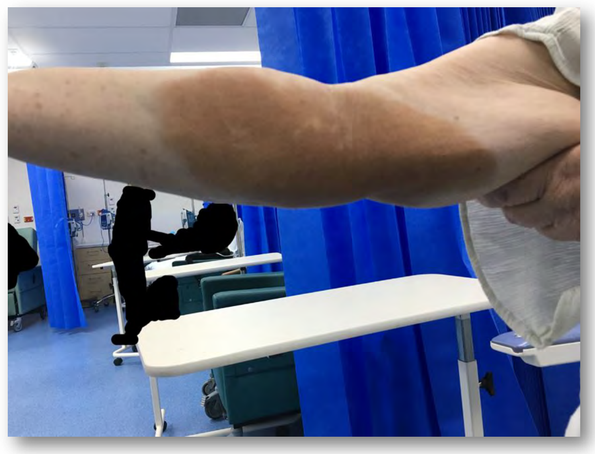
The hospital dispensing software was interrogated to assess the estimated number of patients who received intravenous iron therapy to estimate the potential iron staining incidence rate.

Results

48 Iron-related incidents

18 staining incidents

7 potential staining incidents



Most common concurrent adverse events

Pain / discomfort (33%, n=6)
Swelling (33%, n=6)
Bruise / haematoma (27.8%, n=5)
Infiltration / extravasation (22%, n=4)

Most common number of symptoms reported

2 symptoms (39% n=7)
3 symptoms (28%, n=5)
1 symptom (17%, n=3)

Estimated iron staining incidence rate (2016 to 2020)

Between **0.22%** and **0.3%**

Conclusion

The most common adverse effects contained within iron related medication clinical incidents is pain and discomfort or swelling. Clinicians should monitor for these adverse events to minimise the extent of iv iron extravasation.

Contact Us

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