HealthPathways Melbourne

*Putting knowledge into practice*

# CASE STUDY 17:

## HealthPathways Melbourne assistance with IV iron infusion

A female, 28, presents to her regular GP who has been managing her for iron deficiency anaemia for the previous two months.

To do this, the GP has been using the Iron Deficiency Anaemia guidance on HealthPathways Melbourne, and found menorrhagia to be the likely cause.

This is being managed with guidance from the Heavy Menstrual Bleeding pathway.

The patient had been given oral iron supplements, but felt that she was not able to tolerate them, even after the GP lowered the dose. Therefore, she has stopped using them.

Her GP considers an intravenous iron infusion and checks the Intravenous Iron Infusion pathway. After checking indications, contraindications and precautions, the GP notes that an infusion is appropriate for the patient, and also notes that her risk of hypophosphatemia is low.

Her GP discusses IV iron infusion and considers her options of Ferinject and Monofer on the pathway. For patients at risk of hypophosphataemia Monofer provides a lower risk than Ferinject.

This is not pertinent in this case, so the GP decides on Ferinject, also known as ferric carboxymaltose.



phn EASTERN MELBOURNE
An Australian Government Initiative

phn NORTH WESTERN MELBOURNE
An Australian Government Initiative

# CASE STUDY 17:

The GP checks the patient's latest haemoglobin (Hb 110) and weight (65kg), then checks the pathway again for the appropriate dose.

6. Determine the cumulative iron dose required and give the patient the prescription:

- Ferric carboxymaltose (Ferinject)

**Ferric carboxymaltose (Ferinject)**

Can be given intravenously by undiluted injection or intravenous infusion. TGA-approved for management of iron deficiency in patients aged > 14 years, and treatment of iron deficiency anaemia in children aged 1 to 13 years (require different calculations/maximum doses – not discussed here).

The maximum dose per week should not exceed 20 mg/kg or 1000 mg of Ferinject. If required dose is higher than this, separate amount into 2 doses given at least one week apart.

- Ganzoni method use the Ganzoni formula if patients are likely to require individualised and adjusted dosing e.g., patients with anorexia nervosa, cachexia, obesity, pregnancy, or anaemia due to bleeding.
- Simplified method (for determining the dose of iron). Note if the patient is:
  - pregnant, use the patient's pre-pregnancy weight.
  - overweight, use ideal body weight.
  - underweight, use actual body weight.

If the patient has a body weight of ≥ 35 kg, use this table to determine the cumulative iron dose:

| Haemoglobin (Hb) (g/L) | Body weight 35 to < 70 kg | Body weight ≥ 70 kg |
|---|---|---|

A script and a handout are given to the patient. The GP also discusses the procedure, costs, side effects and complications.

The GP considers the options for arranging an iron infusion externally, described in HealthPathways Melbourne, but the clinic has recently acquired saline after a national shortage, and decides to proceed with this on the premises.

If saline had remained scarce, then the pathway suggests a slow bolus injection would have been an appropriate alternative.

**Slow bolus injection**

Ferric carboxymaltose (Ferinject) can also be given undiluted as a slow bolus injection:

- The maximum dose is 1000 mg, and no more than 20 mg/kg body weight per week.
- If using this method, follow the same administration time frames for infusion i.e.:

A date is scheduled and the GP ensures that the clinic has a policy and protocol in place, as well as adequate emergency resuscitation equipment on the day.A week later, the patient presents for her infusion. A discussion about side effects and complications, including risk of permanent skin staining, is had again and valid consent is obtained and documented using a consent form.

**Valid consent**

Discuss and ensure the patient understands the procedure, the risks, and has signed a consent form. Side-effects and risks include:

- hypersensitivity effects including anaphylaxis.
- risk of permanent skin staining if extravasation occurs.

Give the patient an information sheet.

The GP checks the pathway again to confirm the dose and for the administration instructions for Ferinject.

4. Throughout the infusion, observe the cannula site.
5. Flush cannula with 10 mL 0.9% sodium chloride at end of infusion to reduce risk of iron extravasating and causing staining. Remove cannula before discharging home.

**Guide to dilution and infusion times**

| Ferric carboxyma-ltose (Ferinject) 50 mg/mL | Iron dose | 0.9% s odium chlorid e | Minimum administr-ation time |
|---|---|---|---|
| 2 to 4 mL | 100 to 200 mg | 50 mL | 3 minutes |

# CASE STUDY 17:

Intravenous infusion is started, and set to run over a minimum of 15 minutes. The patient is monitored every five minutes. At seven minutes she complains of feeling hot and itchy. The infusion is stopped and her observations checked again. She denies any other symptoms and is stable again after 15 minutes. The pathway is checked again.

After discussion, the infusion is restarted at 50 per cent of the previous rate and completes with no further issues.

- Monitor for adverse reactions:
  - Mild

**Mild adverse reactions**

- Symptoms:
  - Itching
  - Flushing
  - Feeling hot
  - Mild chest tightness
  - Hypertension
  - Back or joint pains
  - Fishbane reactions
- Treatment:
  - Stop the infusion.
  - Monitor pulse, blood pressure, respiration rate, $O_2$ saturation

Given her initial symptoms, she is observed for one hour post-infusion.

She is then sent home with a pathology form to repeat FBE and ferritin six to 12 weeks later.