Iron Deficiency in Pregnancy

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Learning Outcomes

Understand the scale of the problem in the UK Appreciate the risks to the woman, foetus and newborn

Identify risk factors for iron deficiency anaemia Awareness of signs and symptoms

Understand interventions for prevention, treatment and follow-up





Iron deficiency anaemia in pregnancy



1/3 of the global population have anaemia50% are due to iron deficiency

Iron deficiency anaemia (IDA) affects 1 in 4 women of childbearing age in the UK

World Health Organisation has declared it a moderate public health risk in the UK



More to iron than haemoglobin



DNA synthesis





Vitamin D metabolism

Neurotransmission Myelin biosynthesis



Collagen synthesis





Immunity



Energy production

Signs and symptoms



Feeling cold

Craving ice or soil



Fatigue Low mood

Brain fog

What are the risks?



- Low birth weight
- Premature birth
- Risk of iron deficiency anaemia as an infant
- Possible impaired neurological development

- Fatigue
- Postnatal depression
- Decreased milk supply
- Postpartum haemorrhage
- Increased risk of blood transfusion

Mother

Poor nutrition or malabsorption

> History of heavy menstrual bleeding

Endurance atheletes

Less than one year since last pregnancy

Haemoglobin Thresholds

1st Trimester

Hb less than 110 g/L indicates anaemia

2nd/3rd Trimester

Hb less than 105 g/L indicates anaemia

Consider serum ferritin and haemoglobinopathy screen

Postpartum Hb less than 100 g/L indicates anaemia

Prevention of iron deficiency anaemia

Discuss healthy eating and factors that can affect iron absorption Discuss signs and symptoms, encourage early reporting

Eat more

Meat and poultry Oily fish Dark green vegetables Beans, lentils, chickpeas Nuts, seeds, dried fruit Wholegrains Vitamin C to enhance absorption

Have less

Tea and coffee - avoid one hour before and after meals. These drinks contain tannins which reduce iron absorption

Blood and Transplant

Iron loss 1-2mg daily

- Blood loss
- Sweat
- Sloughed skin and mucosal cells

Iron supplementation

Trial of oral iron for two weeks - if Hb increment is satisfactory after 2-3 weeks continue for 3/12 or until 6/52 postpartum

Routine supplementation is not recommended

IV iron may be indicated from the second trimester onwards if unable to tolerate oral iron, if oral iron is ineffective, if symptoms are severe or if anaemia is detected at 34 weeks or more

Transfusion should be reserved for active bleeding or Hb < 70 with severe symptoms Restrictive transfusion policy if no significant bleeding

PANDA Trial

- 11,000 participants across 20 maternity units
- Non-anaemic women
- Ferrous sulphate 200mg or placebo
- Daily dose

- Primary outcomes:
 - Still birth
 - Pre-term birth
 - Small for gestational age
 - Neo-natal death
 - Neuro-developmental outcomes

Care in labour and birth

anaemia recommended

blood loss anticipated at cesarean section postpartum haemorrhage occur

- Mode and timing of delivery is not affected by
- Increased risk of a postpartum haemorrhage therefore birthing in a hospital setting is

- Active management of the third stage to minimise
- Consider cell salvage if significant blood loss is Consider early use of tranexamic acid should

Postpartum

Continue oral iron until 3 months postpartum Consider IV iron if severe symptoms

significant risk of re-bleeding or cardiac compromise

Transfusion is not indicated if Hb >70g/l, unless there is a

References

Royal College of Obstetricians and Gynaecologists (2015) Greentop Guideline 47: Blood Transfusion in Obstetrics https://www.rcog.org.uk/media/sdqcorsf/gtg-47.pdf

NICE (2021) Antenatal Care Guideline NG201 <u>https://www.nice.org.uk/guidance/ng201</u> <u>Anaemia - iron deficiency | Health topics A to Z | CKS | NICE</u> <u>Obstetric Anaemia toolkit - Hospitals and Science - NHSBT (blood.co.uk)</u>

Pavord S, Daru J, Prasannan N, Robinson S, Stanworth S, Girling J (2019) UK Guidelines on the management of iron deficiency anaemia in pregnancy. British Journal of Haematology https://onlinelibrary.wiley.com/doi/full/10.1111/bjh.16221

