9.2: Anaemia and pregnancy

Prevention of anaemia in pregnancy is important in avoiding unnecessary blood transfusion. The World Health Organization (WHO) defines anaemia in pregnant women as Hb <110 g/L and postpartum anaemia as Hb <100 g/L. Taking account of the physiological changes in Hb concentration during pregnancy, the 2011 British Committee for Standards in Haematology (BCSH) UK Guidelines on the Management of Iron Deficiency in Pregnancy (https://b-s-h.org.uk/) recommend the following thresholds for investigation of anaemia:

- First trimester: Hb <110 g/L
- Second and third trimesters: Hb <105 g/L
- Postpartum: Hb <100 g/L.

9.2.1: Iron deficiency

This is the most common cause of anaemia in pregnancy. At least 30% of UK women have absent iron stores at the onset of pregnancy due to menstrual bleeding and suboptimal dietary intake. Babies born to iron-deficient mothers are more likely to be anaemic in the first 3 months of life and have a higher risk of abnormal psychomotor development. Severe maternal iron deficiency, common in less developed countries, may cause increased risk of preterm delivery and low birth weight. Iron-deficient mothers often have increased fatigue, poor concentration and emotional disturbance. After delivery, this may impair the ability to look after the newborn and prevent successful initiation of breastfeeding.

A routine full blood count should be carried out at the antenatal booking visit and at 28 weeks (allowing sufficient time to treat iron deficiency before delivery). Serum ferritin levels <15 µg/L are diagnostic of absent iron stores and a level <30 µg/L should prompt iron supplementation.

9.2.1.1: Treatment of iron deficiency anaemia in pregnancy

Dietary changes are not sufficient to correct iron deficiency in pregnancy. Oral iron supplements are the first choice, with a therapeutic dose of 100 to 200 mg elemental iron daily (e.g. ferrous sulphate or ferrous fumarate 200 mg two or three times daily). The Hb concentration should increase by around 20 g/L over 3 to 4 weeks and iron should be continued for 3 months after the Hb returns to normal (and at least 6 weeks postpartum) to replenish iron stores.

Many women are intolerant of oral iron because of gastric irritation and diarrhoea or constipation. If a reduction in oral iron dose is not effective, then treatment with parenteral iron should be considered. Modern intravenous iron preparations (see Chapter 6) are safe after the first trimester and may produce a faster and more complete response than oral iron. They are particularly useful when anaemia is diagnosed late in pregnancy. The ability to give a single total replacement dose makes it possible to treat postpartum iron deficiency anaemia before the mother leaves hospital.
9.2.2: Folate deficiency

Anaemia due to folate deficiency is less common and usually reflects poor dietary intake of fresh fruit and leafy vegetables. Other causes include malabsorption (most commonly coeliac disease) or increased requirements in haemolytic anaemia or haemoglobinopathies. Folate deficiency typically produces a macrocytic anaemia (large red blood cells – increased mean cell volume (MCV) on full blood count). Treatment is with oral folic acid 5 mg daily.