In a normal menstrual cycle, the average woman loses a total of 30-40 ml of blood over three to seven days. Heavy or prolonged menstrual bleeding is termed menorrhagia. Menorrhagia is defined as a monthly menstrual blood loss of over 80 ml. A more practical definition may be that of menstrual loss that is greater than the amount of loss. Other pertinent information from history-taking include:

- The amount of loss.
- The timing of the onset and cessation of bleeding.
- The duration of the episode.
- The effect on daily activities and the patient's quality of life.
- The patient's general health and well-being.
- The patient's medical history, including current medications and past medical problems.
- The patient's social history, including any cultural or religious practices that may affect blood loss.
- The patient's reproductive history, including age at menarche, menopause, and any previous pregnancies.
- The patient's obstetric history, including any previous deliveries, abortions, or miscarriages.
- The patient's family history, including any history of bleeding disorders or menstrual problems.
- The patient's vocational and recreational activities.
- The patient's level of exercise.
- The patient's psychological state.
- The patient's overall lifestyle and habits.

Investigations

Women should have a blood test to determine the number of red blood cells (haemoglobin). This test is the most reliable way to diagnose iron deficiency anemia (IDA) and to monitor the effectiveness of treatment. Other investigations that may be performed include:

- A full blood picture, which includes a hematocrit or hemoglobin measurement.
- A serum ferritin test, which measures the amount of iron stored in the body.
- A serum iron test, which measures the amount of iron in the blood.
- A total iron binding capacity test, which measures the amount of iron that can be bound by the body.
- A thyroid-stimulating hormone (TSH) test, which measures the activity of the thyroid gland.
- An electrocardiogram (ECG), which measures the electrical activity of the heart.
- A Doppler ultrasound, which measures the blood flow to the uterus and ovaries.
- A pelvic examination, which may be performed in combination with a Pap smear.
- A pelvic MRI or CT scan, which may be performed to rule out any structural abnormalities.

Management of Heavy Menstrual Bleeding (HMB)

In the clinics, several options may be offered to manage heavy menstrual bleeding. These include:

- Non-steroidal anti-inflammatory drugs (NSAIDs), which can help to reduce blood loss.
- Oral contraceptives, which can help to regulate the menstrual cycle.
- The levonorgestrel intrauterine system (Mirena), which can help to reduce blood loss by up to 94%.
- The estrogen-progestogen combination pill, which can help to reduce blood loss by up to 80%.
- Endometrial ablation, which can help to reduce blood loss by up to 90%.
- Hysterectomy, which can be performed as a last resort.

The general considerations guiding the choice of initial treatment are:

- The patient's desire for fertility.
- The patient's level of general health.
- The patient's social and economic status.
- The patient's cultural and religious beliefs.
- The patient's psychological and emotional state.
- The patient's past medical and surgical history.
- The patient's response to previous treatments.
- The patient's overall lifestyle and habits.

In the absence of any structural or histological abnormalities, or non-organic causes of menorrhagia, treatment options can be offered based on the patient's wishes and fertility concerns.

Treatment

Menorrhagia may be treated using a variety of non-surgical and surgical methods. These include:

- Medical treatment, which may include:
  - Hormonal therapy, which can help to regulate the menstrual cycle.
  - Non-steroidal anti-inflammatory drugs (NSAIDs), which can help to reduce blood loss.
  - Oral contraceptives, which can help to reduce blood loss.
  - The levonorgestrel intrauterine system (Mirena), which can help to reduce blood loss by up to 94%.
  - The estrogen-progestogen combination pill, which can help to reduce blood loss by up to 80%.
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- Surgical treatment, which may include:
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  - Hysterectomy, which can be performed as a last resort.

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Iron Deficiency (ID) and Iron Deficiency Anemia (IDA) in Infants

Iron deficiency (ID) is the commonest nutritional deficiency in children and is often accompanied by iron deficiency anaemia (IDA) - a condition which occurs when the body’s iron stores fall to critically low levels. Iron is required for the synthesis of haemoglobin, the oxygen-carrying component of red blood cells. Iron is also essential for many of the body’s vital enzymes and processes. It is important for immunity, neurodevelopmental function and brain development. IDA may also result in poor cognitive development, impaired immune function, and poor growth and development.

Although exclusive breastfeeding is sufficient to meet iron stores for the first 6 months of life, the iron containing complementary foods will be required for iron homeostasis after this period. Iron fortified foods with good absorption potential are present in fortified infant cereals, fruits, and leafy green vegetables. Further, 12 months to 12 months of age, children need 1mg/kg/day of iron to meet the demands of growing iron requirements.

IDA is caused due to inadequate iron intake or poor iron absorption. Iron from breast milk is less than 1mg/day and contains very little iron. Iron from cow’s milk is also poor in iron.

Iron from plant foods is much less available compared to iron from animal foods. Iron is much better absorbed from heme-containing foods (found in meat, fish and poultry) and less from non-heme forms (found in vegetables, legumes and grains).

Iron deficiency is accompanied by changes in laboratory parameters, with Haemoglobin (Hb) and serum ferritin levels being the most commonly used. This is often accompanied by changes in the Mean Corpuscular Volume (MCV) and Red Cell Distribution Width (RDW).

In the newborn period, strategies like delayed clamping of the umbilical cord, reducing blood sampling, top-up transfusions as clinically indicated, and avoiding unnecessary hospitalizations, may help prevent IDA.

Iron requirements in infancy and early childhood

Table 1: Iron requirements in infancy and early childhood

| Age Group | Iron Requirement
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Full Term Infant</td>
<td>1-3 months</td>
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<tr>
<td></td>
<td>4-6 months</td>
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<tr>
<td></td>
<td>7-12 months</td>
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<tr>
<td>Preterm Infant</td>
<td>&lt; 1 month</td>
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<tr>
<td></td>
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Anemia in pregnancy - a common problem

The World Health Organization (WHO) states that anemia is the most common cause of death in pregnancy and is a major public health problem. Anemia is defined as a hemoglobin concentration of less than 12 g/dL in non-pregnant adults and less than 11 g/dL in pregnant women. Iron deficiency is a common cause of anemia in pregnancy and is estimated to affect 20-40% of pregnant women worldwide.

In severe cases, or those who become progressively more anaemic despite treatment, they may require a blood transfusion. But the significant risk of blood transfusions in women of child bearing age is not infection, commonly believed by the public, but the risk of developing atypical antibodies which may cross the placenta in a future pregnancy and cause fetal anaemia and serious complications for a future baby.

Anaemia in pregnancy

Iron Deficiency Anemia (IDA) in Infants

Iron deficiency anemia: (Hb < 12g/dL) when 20 drops of the iron polypyrrolidine complex contains 1mg elemental iron.

Dr Helen Barton-Smith
Dept of Obstetrics & Gynaecology

Iron deficiency is associated with changes in laboratory parameters, with Haemoglobin (Hb) and serum ferritin levels being the most commonly used. This is often accompanied by changes in the Mean Corpuscular Volume (MCV) and Red Cell Distribution Width (RDW).

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