Kidney disease and anaemia

Royal Berkshire NHS Foundation Trust

This leaflet explains how kidney disease can affect the red blood cells.

What do kidneys have to do with anaemia?

Many people with kidney disease have anaemia. This means they do not have enough red blood cells in their blood. Blood cells are made in the bone marrow. An important part of the kidneys work is to produce a hormone called Erythropoietin. (EPO). This stimulates the bone marrow to produce red blood cells. In some people this does not happen very early in the progression of their kidney disease, for others it is much later, it may depend on what has caused your kidney disease.

How could anaemia affect me?

Red blood cells contain haemoglobin, which carries oxygen around the body. When the haemoglobin level becomes reduced, you can feel tired, look pale, lack energy and experience impaired sexual function.

The importance of testing

Each time you have a blood test taken for clinic one of the things we check is your full blood count (FBC). This will tell us your haemoglobin level. A normal haemoglobin level is 140 – 160 grams per litre (g/l) for men and 120 – 150 g/l in women.

For people with kidney disease it is likely to be lower, and we begin treatment for anaemia when your haemoglobin falls below 110g/l. Following treatment, we aim to keep your haemoglobin between 100-120g/l.

We also test your ferritin level (iron). If this shows a low level (less than 200) and you also have a low haemoglobin level, we will start you on iron treatment, following some additional blood tests. These will help to confirm that your anaemia is related to your kidney disease and to rule out any other cause, such as a slowly bleeding ulcer or heavy periods in women.

Treatment of anaemia

- **Intravenous iron** – This is given as it will boost your ferritin levels more quickly than taking iron tablets and it doesn't usually have the main side effect of causing constipation. Iron is given in hospital and takes about an hour and a half to complete. It is given through a cannula (a special needle that is put into a vein in your arm, no more painful than having a blood test). Iron is usually given once and then you will be asked to have a blood test is taken after 2, 4 and 8 weeks to confirm how well it has worked. You may need further doses in the future, depending on your ferritin level.

- **Erythropoietin** – This is given when people have low haemoglobin but have normal ferritin levels, either naturally or having had intravenous iron. Erythropoietin has transformed the treatment of anaemia. Prior to the 1990's the only treatment available was a blood transfusion but this needed repeating every few weeks, involved a day in hospital each time and made matching a kidney for a transplant more difficult as people built up antibodies. Erythropoietin is a synthetic version of the hormone that your kidneys should produce. We currently use a brand called Eprex. This is given weekly by subcutaneous injection (just under the skin) in the same way that diabetics give insulin. The dose is initially calculated according to your body weight, and then adjusted by the doctors, depending on your blood results. As your blood tests improve, your dose will reduce. Once they start, most people will need to continue it indefinitely, even once they start dialysis. It is usually stopped, following a kidney transplant.

If you have any questions regarding your blood results or treatment for anaemia please ask the doctor in clinic or contact the kidney care nurses on the number below.

Contacting us

Kidney Care Nurses 0118 322 7899

Out of hours / Bank holidays – Victoria Renal Ward 0118 322 7476

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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Next review due: February 2025