

**East Cheshire
Hospice**

Where people come to live

Bisphosphonates Therapy - for the treatment of hypercalcaemia

A Guide for Patients



What are Bisphosphonates?

Bisphosphonates (bis-fos-fo-n-ates) are a group of drugs that are used to:-

- help reduce high calcium levels in the bloodstream.
- reduce pain from cancer that has spread to the bone.
- help stop damaged bones from breaking.

How do Bisphosphonates work?

Healthy strong bones contain calcium, and they are constantly being broken down and renewed. In cancer, usually more bone is broken down than is replaced causing pain and weakness to the bones, which means they may be more at risk of a fracture too.

Bisphosphonates work by slowing down the process of bone breakdown which reduces the amount of calcium that is lost from the bones. This can help strengthen the bones and reduce pain as well as help to normalise the calcium levels in the blood.

Hypercalcaemia

A high blood calcium level is called hypercalcaemia (pronounced high-per-kal-see-mee-a) which is rare in early cancer but can happen when cancer is advancing. Hypercalcaemia is measured with a blood test and can be treated at the hospice.

How high someone's level of calcium is in the blood doesn't always match up with how unwell they feel with it. One person might have a very high level of calcium and have mild symptoms, whereas another person might have only a slightly raised level of calcium and have more severe symptoms.

Hypercalcaemia can cause symptoms such as

- excessive thirst,
- nausea, fatigue,
- weakness,
- poor appetite,
- constipation,
- low mood,
- confusion
- drowsiness.

It can be difficult for a doctor to spot a high calcium level as many of these symptoms are also common in advanced cancer, even in people who do not have hypercalcaemia. Regrettably, it is not really possible to prevent hypercalcaemia from happening.

If left untreated, the hypercalcaemia and its resulting symptoms may worsen and potentially become life threatening. Unfortunately, it may not be possible to control high calcium levels permanently if your cancer is very advanced and you are in the final days or weeks of life, but your doctors will do all they can to manage your symptoms and help make you as comfortable as possible.

Bisphosphonates for treating high calcium

The aims of treatment are to lower the levels of calcium and relieve the symptoms. You might need to spend some time in the hospice to reduce your calcium levels. Before having bisphosphonate treatment, you will be encouraged to drink plenty of fluids and the doctor may prescribe fluids through a drip to help flush the extra calcium out of your bloodstream.

There are several different bisphosphonates available, but the most commonly used at East Cheshire Hospice to treat hypercalcaemia is called Zoledronic acid (Zometa) and is given through a drip in a vein and takes about 15 minutes. The treatment may be repeated after 1-2 weeks if the calcium level remains high.

There are alternative drugs if the response to Zometa is poor, and these are also given intravenously.

Bisphosphonates for treating bone pain or for reducing the risk of fractures

Bisphosphonates are also available to treat bone pain or to reduce the risk of fractures. For this purpose they are given regularly every 3-4 weeks either by intravenous infusion or in tablet form. The tablets are the same type of bisphosphonate medication that is used for osteoporosis treatment.

What are the side effects of Bisphosphonates?

The more common side effects usually occur within 48hrs after treatment and get better on their own. Most patients find these side effects are manageable and time limited.

They may include: -

- headache
- fatigue
- bone, muscle pain and or joint discomfort
- flu-like symptoms such as fever, hot flushes, and chills after the first treatment.

Less common side effects may include; -

- pain and/or redness or inflammation at the injection site.
- sleeplessness,
- tiredness,
- generalised aches/pains
- nausea and vomiting.
- Sore eyes
- Bone problems in the jaw
- Hypocalcaemia (low calcium levels) – symptoms of numbness or tingling in the feet and hands, and around the mouth.

Due to some of the potential side effects within the bone from bisphosphonates, your doctor will ask you about any previous dental problems or planned dental surgery before commencing any bisphosphonate treatment. You may be advised to have planned dental surgery prior to commencing the bisphosphonate unless the treatment is urgent.

Blood tests will be done before and after treatment to monitor the effects on your kidneys and to see the calcium level response.

Other drugs

Your doctor might suggest other medications to help relieve your symptoms of high calcium and may suggest you stop taking other medications if they could be making your hypercalcaemia worse.

These include:

- calcium supplements
- medicines for heartburn and acid reflux
- diuretics

Follow up

Once your blood calcium levels go back to normal, your doctor will want to keep a close eye on you with regular blood tests to make sure the treatment is still working.

It is very important that you see your doctor as soon as possible if you feel the symptoms of high calcium are coming back. Even if something else is causing your symptoms, it is better to see your doctor to find out for sure.

Cutting down calcium enriched foods will not help high calcium that is caused by cancer and will not make any difference to your calcium levels, but please feel free to talk to your doctor or nurse if you are concerned about your diet and please make sure you check with your doctor before taking any vitamin or mineral supplements.

Do you have any questions?

If you would like further information about bisphosphonate medication or have concerns about any of the information contained in this leaflet, please do not hesitate to talk to your doctor or nurse who will be pleased to help.

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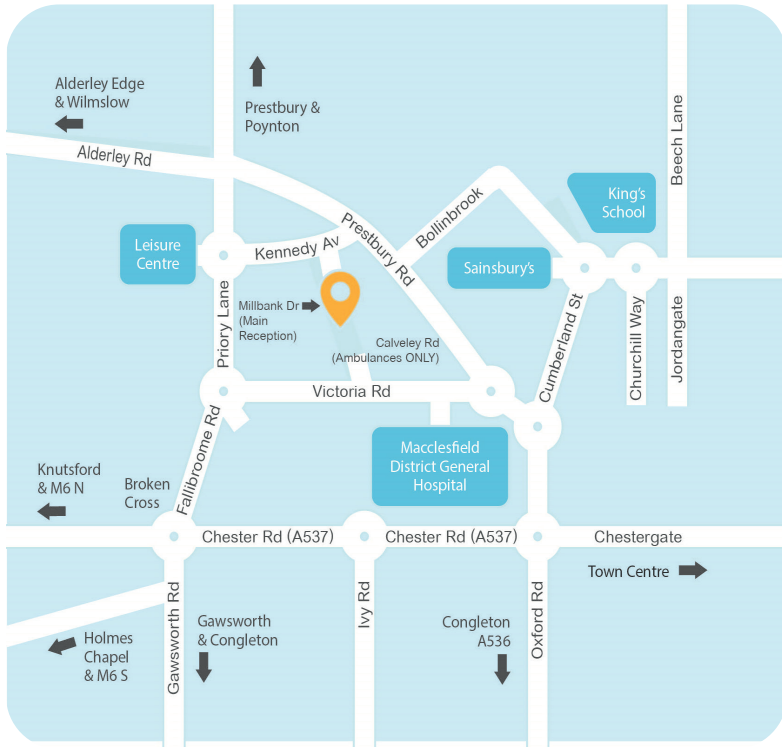
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