



Endocrine Department

The use of bisphosphonate treatment

Information for parents and carers

Introduction

At your last clinic appointment the doctor will have advised that starting this treatment will be beneficial to your child's medical condition. This leaflet aims to provide information about bisphosphonate treatment including what bisphosphonates are, how they work and the benefits of the treatment for your child.

What are bisphosphonates?

Bisphosphonates are a group of drugs which are very similar to compounds that are found naturally in the human bone. They are widely used for the management of children with Osteogenesis Imperfecta (OI), and other conditions causing bone fragility.

These drugs include:

- **Pamidronate** – given through a vein
- **Zoledronate** – given through a vein
- **Risedronate** - given orally

How do they work?

The two main cell groups within the bones are called:

- Osteoblasts – cells which make bone
- Osteoclasts – cells that breakdown the bones (bone resorption)

Both types of cells are very active, even in adults and work together to make the bone strong. Bisphosphonates are thought to slow down the resorption by acting a bit like glue. The bisphosphonate sticks to the bones surface and does not let the osteoclasts break down the bone. The life of the osteoclasts is shortened and that of the osteoblasts is lengthened.

What are the benefits of my child having this treatment?

Bisphosphonates are known to improve bone density and may reduce the risks of fractures in children with osteoporosis. Treatment can also reduce the amount of pain children have.

What are the side effects of treatment?

Many children have a "flu like" reaction following the first cycle of treatment. (This is called acute phase reaction). Your child may develop a temperature, have achy joints, become unsettled and generally appear "under the weather" for a few days. Paracetamol will be prescribed to bring their temperature down and make them feel more comfortable.

Bisphosphonates lower the blood calcium levels as part of their action. This is called hypocalcaemia. It will be monitored as required by your doctors but rarely causes problems. If your child is having Zoledronate, on completion of each cycle of treatment they will be given a short course of calcium medication to complete at home.

How is the treatment given?

Pamidronate and Zoledronate are given into a vein through a cannula (plastic tube). Anaesthetic cream can be applied to the back of the hand or elbow to prevent any pain or discomfort before the cannula is inserted.

If venous access is difficult or treatment is to go on for several years, the doctor may discuss other options.

The first cycle of treatment is always given as an overnight inpatient admission at Alder Hey Hospital. Further cycles can be given on the Day Ward at Alder Hey Hospital.

Pamidronate is given as an infusion over four hours either on one day each month or on three consecutive days three monthly. 12 infusions are given per year.

Zoledronate is given as an infusion over one hour on one day every six months. Two infusions are given per year.

How long will my child need treatment for?

This is difficult to answer as it is likely to vary from child to child. The need for treatment is constantly re-assessed and you will be kept fully informed.

For further information

Please telephone the Endocrine Nurse Specialist on:

0151 252 5534

Monday- Friday 08:00 – 17:00 or leave a message on the answer machine.

This fact sheet only gives general information. You must always discuss the individual treatment of your child with the appropriate member of staff. Do not rely on this leaflet alone for information about your child's treatment.

This information can be made available in other languages and formats if requested.

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