

## Patient information

### **Management of Osteoradionecrosis ORN of the jaw**

#### Regional Head and Neck Unit

This leaflet has been designed to explain osteoradionecrosis of the jaw and it contains answers to many frequently asked questions around the medication.

For those having operations, there is a separate patient information leaflet to outline what is involved in surgery.

#### **What is Osteoradionecrosis (ORN) of the jaw?**

Osteoradionecrosis is non –healing, exposed bone in previously radiated area of the body. It is seen in head and neck patients with cancer who have been treated with radiation. It typically occurs in the lower jaw (mandible) at any time after around six months following completion of radiotherapy. It can be a late effect following treatment.

#### **How common is it among head and neck cancer patients?**

ORN occurs in around four – 10 % of patients. It can occur spontaneously however one of the biggest risk is dental extractions.

This is why patients get a dental assessment prior to starting radiotherapy so that any teeth of poor quality can be extracted prior to treatment starting. Other risk factors include smoking.

If you are treated with chemotherapy at the same time with radiation of the head and neck, you are an increased risk of developing ORN.

#### **What are the symptoms/signs**

You usually develop a breakdown of the gum (ulcer or sinus), with hard grey/white tissue (exposed bone) seen beneath. The condition is usually associated with pain, swelling and some difficulty with mouth opening.

#### **How is it diagnosed?**

There is a higher chance of the condition being prevalent with patients who have had previous head and neck radiation.

A thorough history and physical examination of the head and neck will be carried out by your surgeon. An X-ray to evaluate the area is usually carried out to provide an accurate diagnosis.

## **Treatment for osteoradionecrosis**

Usually the initial management of ORN is medication. Some patients need surgery and this issue is covered in a different information leaflet.

**If you have osteoradionecrosis you are likely to be started on some of the medications referenced below.**

- Pentoxifylline MR tablet 400mg. One tablet two to three times per day
- Alpha tocopherol acetate 1000mg daily
- Sodium Clodronate 800mg tablets. Two tablets daily (Five days a week) – (optional)
- Doxycycline capsule/tablets 100mg daily (optional)

## **Pentoxifylline**

Pentoxifylline dilates the blood vessels and increases oxygen levels in the affected area. This helps healing and reduces inflammation.

## **Side-effects**

It is usually well tolerated. Side effects such as nausea, vomiting, abdominal discomfort or bloating, diarrhoea, low blood pressure, dizziness and headache have been reported.

Other side effects including skin disorders, rash, agitation, and breathing difficulties have been reported.

## **Interactions**

**Pentoxifylline may increase the effects of the following medication.**

- Medicine for diabetes including tablets or insulin.
- Medicine for high blood pressure
- Anticoagulants such as warfarin

**When taking Pentoxifylline, the following medicine may increase the chance of you getting side effects.**

- Ketorolac used for pain relief.
- Theophylline used to treat wheezing or difficulty in breathing.
- Ciprofloxacin used to treat bacterial infections.
- Medicines used to stop blood clots from forming.
- Cimetidine used to treat heartburn and stomach ulcers.

## **Swallowing difficulty**

The modified release tablet is formulated to reduce the risk of nausea, heartburn, burning stomach pain or burping.

Crushing the tablet will increase symptoms of nausea, dizziness, excess sweating and headache.

Therefore, you will need another drug (proton pump inhibitor) Lansoprazole for gastric protection should you have these symptoms.

### **Alpha Tocopherol Acetate (Vitamin E)**

Tocopherols are the active ingredients of vitamin E. In theory it is used to prevent harm to the cells membranes and allow healing.

Vitamin E and Pentoxifylline work well together to help reduce further damage to the affected area and promote healing.

### **Side-effects**

It is usually well tolerated. Diarrhoea and abdominal pain are the most common side effects.

### **Interactions**

There is an increased bleeding risk if you are taking anticoagulants.  
Increased risk of thrombosis if you are taking oestrogens or contraceptive pills containing oestrogen.

### **Swallowing difficulty**

Alpha tocopherol acetate (vitamin E) comes in 500mg/5ml solution. You can have the liquid preparation should you have any swallowing difficulties. Otherwise, vitamin E 1000mg capsule is used.

### **Sodium Clodronate**

Sodium Clodronate helps increases the formation of new bone.

### **Side-effects**

Common side effects are diarrhoea, nausea, vomiting and low calcium.

### **Interactions**

Simultaneous administration with food, antacid and mineral supplements may reduce absorption. Therefore, it should be taken with an empty stomach 30 minutes before the rest of medications with a full glass of water.

### **Swallowing difficulty**

The 400mg capsule can be opened and the contents dispersed in water for administration. Please do not mix calcium containing preparations e.g. milk or other medicines with it. You should leave two hours before and two hours after each dose if you are on feeding tube regimen.

## **Doxycycline**

It is used as an antibiotic to prevent infection. It also helps by inducing bone repair and reducing inflammation in the affected area.

Doxycycline is available as capsules and dispersible tablets.

## **Side Effects**

Common side effects are nausea, vomiting, headache and rash.

## **Interactions**

Calcium, iron, zinc, magnesium, bismuth all reduce absorption of Doxycycline.

Administration should be separated by at least two hours apart.

Your doctor may consider an increased dose of Doxycycline if you are on carbamazepine, phenytoin or barbiturates.

## **Chlorhexidine Mouth Wash**

It is a germicidal mouthwash that reduces bacteria in the mouth which helps reduce the risk of further infection.

Chlorhexidine may cause staining, alter your taste perception and cause an increase in tartar.

## **How long should this regimen be continued for?**

Usually the medication should be used for at least Six months; however this can be continued much longer depending on the patient response.

Please tell your doctor or pharmacist if you are taking or have recently taken any other medicines.

If you have any further questions, ask your doctor or pharmacist.

If any of the side effects gets serious, or if you notice any side effects not listed in this leaflet, please tell your doctor or pharmacist.

## **Feedback**

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

## **Further information**

**For Further Information please contact below**

**Regional Head and Neck Unit**

**Tel: 0151 525 5980**

**Text phone Number: 18001 0151 525 5980**

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