The ROYAL MARSDEN
NHS Foundation Trust

Advice on ramucirumab for advanced stomach cancer

GI Unit

Patient Information

NHS

Introduction

Your doctors have suggested that you may benefit from a course of ramucirumab treatment. They will have weighed the potential benefits of treatment, in terms of controlling the cancer and its symptoms, against the possibility of side effects. Your doctor will have discussed these with you.

The treatment you have been offered is called palliative treatment. The aim of palliative treatment is to control the growth of your cancer and relieve or improve any symptoms. Although this treatment may result in your cancer shrinking and/or lengthening your life, it is unlikely to completely get rid of your cancer. However, the benefits that you receive from the drug may last some time.

It is not possible to predict, before you start treatment, how your cancer will respond or for how long treatment will be beneficial. If you are still unsure about the benefits, then please ask. This leaflet explains what you can expect from the drug you will receive.

How ramucirumab works

Ramucirumab (sometimes called Cyramza®) is one of a new group of drugs called monoclonal antibodies. Monoclonal antibodies are specialised substances that recognise and attach to specific proteins in the body. Ramucirumab is an antibody that attaches to a protein on the surface of blood vessels called VEGF Receptor-2. VEGF Receptor-2 is important for the growth of new blood vessels. By attaching to and blocking VEGF Receptor-2, ramucirumab interferes with the blood supply to cancer cells and so it slows their growth.

Treatment plan

Ramucirumab is given by infusion (drip) into a vein (usually on the hand or forearm) over 60 minutes. Ramucirumab may be given on its own or together with chemotherapy and it is usually given at an outpatient appointment every two weeks.

If you are due to be given other chemotherapy drugs through a vein when you have ramucirumab, it is likely that you will be given the ramucirumab first. A new cannula (fine tube) will be placed in your arm before each dose of chemotherapy, and will remain there only while that chemotherapy is being given. During treatment, we will monitor you for an allergic reaction or side effects.

Treatment is usually given over a period of six months. You will have a CT scan every 8–12 weeks and regular blood tests. The doctors will examine the scans and blood test results to assess how you are responding to the treatment. They will also assess how any toxicity associated with the treatment is impacting your life. If the CT scan shows your tumour is not responding to the treatment or you are suffering from excessive toxicity, the treatment will be stopped and your doctor will discuss your options with you.

Side effects

All drugs can have some side effects and this includes ramucirumab. These vary and for some people they may not occur at all.

The more common side effects are:

Allergic reactions

During the infusion you may experience symptoms such as:

- shivering
- fever
- rash
- chest pain or tightness
- difficulty in breathing
- wheezing
- headache
- feeling of numbness
- tingling in hands and feet.

We will monitor you closely during your treatment and if any of these symptoms occur, you will be treated with medications to control them. Your drip will be stopped, or the duration of the infusion will be increased. Extra medication may be given before your next infusion to lower the risk of it happening again. These reactions can be severe in a small number of patients and symptoms may include breathing distress, a faster heartbeat and feeling faint.

Nausea and vomiting

You may experience nausea and vomiting – this can usually be managed with anti-sickness (anti-emetic) drugs. For further information, please refer to the Macmillan booklet *Coping with nausea and vomiting*.

Protein in your urine

We will test your urine before and during treatment for protein (proteinuria). If your urine contains protein, you may need further tests to check if your kidneys are working normally.

Headaches

If this happens, let your doctor or nurse know. They can assess the headache and give you painkillers.

Bleeding

Ramucirumab has the potential to increase the risk of bleeding. This can range from mild nose bleeds to more severe bleeding (haemorrhage), however, serious bleeding is much less common. Symptoms of severe bleeding may include extreme tiredness, weakness, dizziness or black stools. Ramucirumab will be permanently stopped if you experience this.

Blood clots

Some cancers increase the risk of developing blood clots in the veins. Cancer treatments can also cause an increase in the risk of patients developing blood clots. The most common place for blood clots to form is in the calf.

This is called a deep vein thrombosis (DVT) and causes the leg to swell. If a part of the clot breaks free, it may travel to the lungs, causing shortness of breath or chest pain. This is called a pulmonary embolus (PE).

Blood clots can be life threatening and treatment with blood-thinning drugs (anticoagulants) is usually given to help 'dissolve' the clot and prevent further problems. Please inform your doctor immediately if you are worried you may have a blood clot.

Airline travel is also associated with an increased risk of blood clots. It is important that you inform your hospital team of any travel plans whilst you are on treatment.

Some patients have developed blood clots in their arteries which can increase the risk of having a stroke or heart attack. Symptoms of a heart attack may include chest pain or heaviness in the chest. Symptoms of a stroke may include sudden numbness or weakness of the arm, leg and face, feeling confused, difficulty speaking or understanding others, sudden difficulty in walking, loss of balance or coordination and sudden dizziness. Ramucirumab will be permanently stopped if you develop a blood clot in your arteries.

Diarrhoea

If you get diarrhoea, it is important to drink plenty of fluids and the symptoms can usually be controlled with medication. Tell the doctor or nurse if this happens more than four times in 24 hours.

Delayed wound healing

Ramucirumab can increase the time it takes for wounds to heal. Let your doctor know if you are due to have surgery or if you have a wound that is taking a long time to heal.

High blood pressure

Ramucirumab can cause some people's blood pressure to increase. Your blood pressure will be checked throughout the treatment. If you develop high blood pressure, we will

treat it with medication. High blood pressure usually settles when ramucirumab is stopped. If you already have high blood pressure before starting treatment, your doctor may need to increase your existing blood pressure medications.

The less common side effects are:

Abnormal tube-like connections or passageways inside the body

Ramucirumab may increase the risk of abnormal tube-like connections or passageways inside the body between internal organs and skin or other tissues (fistulae). Ramucirumab will be permanently stopped if this develops.

A hole in the wall of your gut

Ramucirumab has the potential to increase the risk of developing a hole in the wall of your gut (gastrointestinal perforation). Symptoms include severe abdominal pain, being sick (vomiting), fever or chills. Ramucirumab will be permanently stopped if this happens.

Reversible posterior leukencelopathy

This is a very rare neurological complication of ramucirumab which may present with headaches, visual disturbances, confusion and fits (seizures). Ramucirumab will be permanently stopped if this develops.

It is important that you inform your doctor at your next hospital visit if you experience any of these side effects. With certain side effects, a treatment break or dose reduction may be necessary. If you have any concerns regarding these side effects, please contact us (see contact details on page 8).

Fertility, pregnancy and breastfeeding

At present, we do not know what effect ramucirumab may have on fertility or a developing baby. Therefore we recommend the following advice, as given for various chemotherapy drugs.

Fertility: this treatment can damage the testis or ovary. This may affect your ability to conceive (or father a child). Infertility can be temporary or can sometimes be permanent. In women, treatment can sometimes lead to premature menopause. If relevant to you, you may want to discuss the issue of fertility with your doctor before treatment is started.

Pregnancy: during treatment and for up to a year afterwards, if sperm or eggs are produced, they may be abnormal. Treatment can also harm an unborn child. We recommend that you or your partner use a barrier method of contraception (such as condoms) during treatment and for one year afterwards. If you know you are pregnant before starting treatment or become pregnant during treatment, you must tell your doctor immediately.

Breastfeeding: there is a risk of harm to a child who is being breastfed since the drug may be concentrated in the milk. It is very important that women do not breastfeed while receiving treatment.

We have listed the most common side effects of this treatment. You may experience some or several of these side effects listed above and they may be mild, moderate or severe. Some can occasionally be life-threatening or even lead to death. This occurs in 0.5-5% of cases (less than 5 in 100 people). All side effects will be discussed with you, however please do raise any questions that you may have with your medical team or Clinical Nurse Specialist (CNS).

As with all drugs, there may be other side effects not mentioned here that you may experience. Because of the risk of side effects it is important that you:

- Always tell your doctor if you suffer from any of these side effects, or if you have experienced any new symptoms since your last visit. Your doctor can help you by giving you

medication or advice to reduce or stop these side effects from occurring in the future.

- Always tell your doctor about any other medicine you are taking or planning to take, including herbal and complementary therapies.
- Always consult your doctor before having any other procedure, for example, dental work or vaccinations.

Contact details

Please contact us if you have any concerns or queries:

Sutton

Medical Day Unit	020 8661 3174
Kennaway Ward	020 8661 3128
Robert Tiffany Ward	020 8661 3944 (Private patients)

Clinical Nurse Specialist/Key worker

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Tel: .....

Chelsea

Burdett Coutts Ward	020 7808 2370
Private Patient Day Unit	020 7808 8092 (Private patients)
Granard House 1	020 7808 2973 (Private patients)
Granard House 2	020 7808 2362 (Private patients)

Clinical Nurse Specialist

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Tel: .....

Alternatively, please call:

The Royal Marsden Macmillan Hotline: 020 8915 6899

You can ring the hotline 24 hours a day, 7 days a week.

Call us straight away if you are feeling unwell or are worried about the side effects of cancer treatments.

This service provides specialist advice and support to all Royal Marsden patients, as well as to their carers, and both hospital and community-based doctors and nurses caring for Royal Marsden patients.

References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

Freephone: 0800 783 7176

Email: patientcentre@rmh.nhs.uk

No conflicts of interest were declared in the production of this booklet.

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

The patient information service is generously supported by The Royal Marsden Charity.

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Registered Charity No.1095197

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Revised June 2019. Planned review June 2022
GI-1614-02

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