PATIENT
INFORMATION

Radiofrequency ablation (RFA) for liver cancer

Radiofrequency ablation (RFA) is used to treat certain types of cancer by heating the cancerous cells until they die. It's most commonly used to treat cancer of the liver, lung or kidney. This leaflet provides information about RFA for treating cancer of the liver.

Most cancers of the liver are treated with chemotherapy, radiotherapy or surgery. However, you may be offered RFA if surgery isn't suitable for you or if chemotherapy hasn't been successful. You may have RFA on its own or in combination with other treatments.

What is RFA?

RFA destroys cancer cells using heat. This comes from a radiofrequency electrical current. The heat causes the targeted cancer cells to stick together (coagulate) and die.

A needle electrode is inserted into the area to be treated. Radiofrequency energy is then applied to the needle creating an electrical current. The current going through the electrode produces heat of over 50°C that kills the cancer cells without damaging other parts of the liver – healthy tissue can withstand heat better than abnormal cells.

Making a decision about RFA

The final decision as to whether or not to have this procedure will be yours. Your oncologist (a doctor who specialises in cancer care) will discuss your condition with you to help you decide if RFA would be a suitable treatment option.

Preparing for your RFA

As you will be having a general anaesthetic for this procedure, you will be asked to follow fasting instructions. Typically you must not eat or drink for about six hours before a general anaesthetic although you may be allowed occasional sips of water until two hours beforehand. You will need to have blood tests and usually these are done a few hours before the procedure.

About the procedure

An interventional radiologist will perform the RFA and explain the procedure and ask you to sign a consent form. This confirms that you understand the risks, benefits and possible alternatives to the procedure and give your permission for it to go ahead.

You may be given antibiotics to help reduce the chance of getting an infection after the procedure. These are usually given at the same time as the anaesthetic.

At the beginning of the procedure you will have a CT scan. The scan helps the radiologist place the needle electrode in the right position in your skin to reach the cancer. Once the needle is in place the electrical current of radiofrequency waves is applied. You may need to have more than one ablation depending on the size of your cancer. Each ablation takes between 10-30 minutes with the whole procedure lasting up to two hours depending on how many ablations you have.

What to expect afterwards

You will need to rest until the effects of the anaesthetic have passed. You may be given further medicines to help prevent you from feeling any pain or sickness. You are likely to be advised to stay overnight in hospital. You may be given painkillers to take at home when you leave hospital.

Your concentration and co-ordination may not be as good as usual, and you may feel light-headed or faint.

For these reasons, for 24 hours after the procedure you must:

- not drive a car or ride a bicycle
- not operate machinery
- be more aware of electrical appliances, cookers, hot saucepans etc
- not drink alcohol (especially on the day of your procedure)
- not sign any important or legal documents

Getting the results

You will have a CT scan of your liver within a few days or a week after having RFA. This is to check for any complications and to make sure the cancer has been destroyed. Your oncologist will discuss the findings with you at your next appointment.

What are the risks?

RFA is commonly performed and generally safe. However, in order to make an informed decision and give your consent, you need to be aware of the possible side-effects and the risk of complications of this procedure.

Side-effects

These are the unwanted but mostly temporary effects you may get after having the procedure. Possible side-effects of RFA to treat liver cancer include:

- a sore throat caused by the breathing tube placed in your throat for the general anaesthesia
- pain or discomfort around the area where the needles were inserted
- pain in your shoulder – treatments around the liver sometimes produce irritation of the diaphragm which is felt as pain in the shoulder

Complications

Complications are when problems occur during or after the procedure. The possible complications of any procedure include an unexpected reaction to the anaesthetic, infection, excessive bleeding or developing a blood clot, usually in a vein in the leg (deep vein thrombosis, DVT).

Other complications specific to RFA include:

- feeling unwell with a raised temperature three to five days after the procedure (post ablation syndrome) - contact your doctor if your temperature doesn’t return to normal after a few days as you may have an infection
- damage to the organs near your liver, such as the gallbladder, bile ducts, diaphragm and bowel - although this is rare, you may need surgery to repair it

- very rarely, an abscess at the place where the needle was inserted (an abscess is a localised collection of pus caused by an infection) - this will need to be drained and treated with antibiotics
- very rarely, the contact pads can cause small electrical burns on your legs - you may need to have sterile dressings put on these

Ask your doctor to explain how these risks apply to you. The exact risks will differ for each person. Evidence suggests that RFA is as safe as other procedures used to treat liver cancer, and you're unlikely to have complications. It's also less invasive than other treatment options.

Contact

If you have any questions or need further information, please contact the CT scan department on Tel: +44 (0)20 7460 5613 or Fax: +44 (0)20 7835 2493. The department is open Monday to Friday between 9.00am and 5.30pm.

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