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Clinical Excellence

Selective internal radiation for colorectal metastases in the liver

Understanding NICE guidance – information for people considering the procedure, and for the public

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Information from Interventional Procedure Guidance 93

Selective internal radiation for colorectal metastases in the liver
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Copies of this booklet can be ordered from the NHS Response Line; telephone 0870 1555 455 and quote reference number N0709. A version in Welsh and English is also available, reference number N0710. Mae fersiwn yn Gymraeg ac yn Saesneg ar gael hefyd, rhif cyfeirnod N0710. The NICE interventional procedures guidance on which this information is based is available from the NICE website (www.nice.org.uk). Copies can also be obtained from the NHS Response Line, reference number N0708.

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About this information

This information describes the guidance that the National Institute for Clinical Excellence (NICE) has issued to the NHS on a procedure called selective internal radiation. It is not a complete description of what is involved in the procedure – the patient's healthcare team should describe it in detail.

NICE has looked at whether selective internal radiation is safe enough and works well enough for it to be used routinely for the treatment of colorectal cancer that has spread to the liver.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of selective internal radiation and how well it works
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the patients and carers who will be affected by this guidance.

This guidance is part of NICE's work on 'interventional procedures' (see 'Further information' on page 10).

About selective internal radiation

Colorectal cancer is a type of cancer that develops in the bowel (colon) or rectum. Cancer cells can spread from where they start (the 'primary tumour') to other parts of the body to form one or more 'secondary tumours'. When this happens it is called 'metastasis' and the secondary tumours are known as 'metastases'. Around half the people who have colorectal cancer develop secondary cancers; most commonly these happen in the liver. When colorectal cancer has spread to the liver, doctors call this 'having colorectal metastases in the liver'.

The standard treatment for this is an operation to remove the affected part of the liver but not many people can be treated this way (surgery is suitable for only around 1 person in 10 with colorectal metastases in the liver). When surgery is not likely to work, other options include using chemotherapy or radiotherapy, or cancer cells can sometimes be treated using heat, cold temperatures or lasers, or by injecting a special alcohol.

One method of treating liver metastases when surgery cannot be used is selective internal radiation therapy (SIRT). SIRT uses radiation put directly into the patient's body to kill the cancer cells. Tiny radioactive 'beads' that can only be

seen under a microscope are injected into the artey that supplies blood to the liver (the hepatic artery). This is done by inserting a very fine tube called a catheter into a blood vessel in the leg, and passing it into the hepatic artery. The beads are then injected by syringe into the catheter. The beads become trapped in the tiny blood vessels that surround the tumour and release radiation directly into the liver. Sometimes a permanent access point and connection to the hepatic artery is made, and this involves having a small operation called a laparotomy.

Usually, a course of chemotherapy is also given directly into the liver of a patient who is having SIRT.

How well it works

What the studies said

One study that NICE looked at compared patients who had SIRT together with chemotherapy to patients who had chemotherapy on its own. The study measured whether the treatments made any difference to how big the tumour was and how much of it there was in the liver (the tumour's size) and levels of a substance in the blood produced by the tumour (known as a 'tumour marker'). The patients who had SIRT showed better results than the patients who only

had chemotherapy, but no difference was seen in how long the patients lived. This was partly because the study was stopped before it was finished.

What the experts said

The experts had different opinions about SIRT. One expert thought that it could help patients with colorectal metastases in the liver to live longer, but another expert thought that it was not clear how well it works and that more research was needed.

Risks and possible problems

What the studies said

Overall, a number of serious side effects were reported, but these only affected a small number of people who had the procedure. Out of 363 patients having SIRT, the most common problem seen was ulcers developing in the digestive system, which affected 13 patients. The radiation caused five patients’ lungs to become inflamed and three patients had bleeding in the digestive system. Two patients died from an inflammation of the liver (called hepatitis) caused by the radiation.

In the study that looked at SIRT with chemotherapy, the number of more serious complications was about the same in the patients who had the procedure as in the patients who had chemotherapy alone.

What the experts said

The experts thought that a possible problem was damage to the liver and surrounding structures caused by the radiation itself. They also thought that patients might have a lot of pain, feel sick and have a fever following the procedure.

What has NICE decided?

NICE has considered the evidence on SIRT for colorectal metastases in the liver. Although the procedure appears safe enough for routine use and appears to 'shrink' the tumour, there is not enough evidence on how well the procedure works to reduce symptoms or prolong patients' lives. Because SIRT is used together with other treatments, it is difficult to decide how well it works.

NICE has decided that, if a doctor wants to carry out SIRT for colorectal metastases in the liver, he or she should make sure that the patient understands what is involved and that there are

still uncertainties about how well the procedure works. There should be special arrangements in place so that the patient only agrees (consents) to the procedure after this discussion has taken place.

Doctors should monitor what happens to all patients who have SIRT for colorectal metastases in the liver. More research is needed to see how well it works and NICE may look at the procedure again if new information becomes available.

Other comments from NICE

NICE has also noted that this procedure is likely to be used for patients who are not suitable for other types of treatment.

What the decision means for you

Your doctor may have offered you selective internal radiation for colorectal liver metastases. NICE has considered this procedure because it is relatively new. NICE has decided that there are uncertainties about the benefits of the procedure which you need to understand before you agree to it. Your doctor should discuss the benefits and risks with you. Some of these may be described above.

Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

You can visit the NICE website (www.nice.org.uk) for further information about the National Institute for Clinical Excellence and the Interventional Procedures Programme. A copy of the full guidance on selective internal radiation is on the NICE website (www.nice.org.uk/IPG093guidance), or you can order a copy from the website or by telephoning the NHS Response Line on 0870 1555 455 and quoting reference number N0708. The evidence that NICE considered in developing this guidance is also available from the NICE website.

If you want more information on colorectal cancer, a good starting point is NHS Direct (telephone 0845 4647) or NHS Direct Online (www.nhsdirect.nhs.uk).

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