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Liver Cancer - Treatment Options [1]

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ON THIS PAGE: You will learn about the different ways doctors use to treat people with HCC. To see other pages, use the menu on the side of your screen.

This section outlines treatments that are the standard of care (the best known treatments available) for HCC. When making treatment plan decisions, patients are also encouraged to consider clinical trials as an option. A clinical trial is a research study to test a new approach to treatment to evaluate whether it is safe, effective, and possibly better than the standard treatment. Clinical trials may test such approaches as a new drug, a new combination of standard treatments, or new doses of current therapies. Your doctor can help you review all treatment options. For more information, visit the About Clinical Trials [3] and Latest Research [4] sections.

Treatment overview

In cancer care, different types of doctors often work together to create a patient's overall treatment plan that combines different types of treatments. This is called a multidisciplinary team [5]. Cancer care teams also include a variety of other health care professionals, including physician assistants, oncology nurses, social workers, pharmacists, counselors, dietitians, and others.

Treatment options and recommendations depend on several factors:

- How much of the liver the cancer is affecting
- Whether the cancer has spread
- The patient's preferences and overall health
- The damage to the remaining cancer-free area of the liver

When a tumor is found at an early stage and the patient's liver is working well, treatment is aimed at trying to eliminate the cancer. The care plan may also include treatment for symptoms and side effects, an important part of cancer care. When liver cancer is found at a later stage, or the patient's liver is not working well, the patient and doctor should talk about the goals of each treatment recommendation. At this point, the goals of treatment may focus on slowing growth of the cancer and relieving symptoms to improve quality of life.

The various disease-directed treatment options can be grouped according to whether they may cure the cancer or will improve survival but will most likely not eliminate the cancer. Descriptions of the most common treatment options, both disease-directed and those aimed at managing side effects and symptoms, are listed below. Take time to learn about your treatment options and be sure to ask questions about things that are unclear. Also, talk about the goals of each treatment with your doctor and what you can expect while receiving the treatment. Learn more about making treatment decisions [6].

Disease-directed treatments to eliminate HCC

These treatments are generally recommended when the tumor has been found at an early stage. Many doctors will not use these treatments if the tumor is larger than 5 cm.

Surgery

Surgery is the removal of the tumor and some surrounding healthy tissue during an operation. It is likely to be the most successful disease-directed treatment, particularly for patients with a tumor smaller than 5 cm. If the tumor has spread outside the liver, or if the patient has other serious illnesses, surgery may not be an option. A surgical oncologist is a doctor who specializes in treating cancer using surgery. Learn more about the basics of cancer surgery [7].

Two types of surgery are used to treat HCC:

- **Hepatectomy.** When a portion of the liver is removed, the surgery is called a hepatectomy. A hepatectomy can be done only if the cancer is in one part of the liver, and the liver is working well. The remaining section of liver takes over the functions of the entire liver and may regrow to its normal size within a few weeks. **A hepatectomy may not be possible if the patient has advanced cirrhosis, even if the tumor is small.**

  The side effects of a hepatectomy may include pain, weakness, fatigue, and temporary liver failure. The health care team will watch for signs of bleeding, infection, liver failure, or other problems that need immediate treatment.

- **Liver transplantation.** Sometimes, a liver transplantation can be done. This procedure is possible only when the cancer has not spread outside the liver, a suitable donor is found, and very specific criteria are met in terms of tumor size and number. It is important to

understand that the number of donor livers available is very limited, so transplantation is not always an option.

After a transplant, the patient will be watched closely for signs that the body might be rejecting the new liver or that the tumor has come back. The patient must take medication to prevent rejection. These drugs can cause side effects, such as puffiness in the face, high blood pressure, or increased body hair.

Liver transplantation is a particularly effective treatment for people with a small tumor because transplantation removes the tumor and the damaged liver. However, there are few donors, and people waiting for a liver transplant may have to wait for a long time before a liver becomes available. During this time, the disease may get worse. The transplant center will advise you how long the wait is likely to be and what rules are used to prioritize people on the waiting list.

Thermal ablation

Radiofrequency ablation (RFA) and microwave therapy both use heat to destroy cancer cells. They may be given through the skin, through laparoscopy, or during a surgical operation while a patient is sedated. Sedation is giving medication to become more relaxed, calm, or sleepy.

Percutaneous ethanol injection

Percutaneous ethanol injection uses alcohol injected directly into the liver tumor to destroy it. Side effects include fever and pain after the procedure. In general, though, the procedure is simple, safe, and particularly effective for a tumor smaller than 3 cm. However, if the alcohol escapes from the liver, a person may have brief but severe pain. This option is currently being used less often and has been largely replaced by RFA (see above).

Disease-directed treatments to improve survival

If the doctor feels the cancer cannot be eliminated using one of the treatments listed above, he or she may recommend one of the following options to shrink the tumor and/or slow tumor growth. While these treatments will most likely not eliminate the cancer, they have been shown to improve survival.

Chemoembolization

This is a type of chemotherapy treatment that is similar to hepatic arterial infusion, see below. During this procedure, drugs are injected into the hepatic artery, and the flow of blood through the artery is blocked for a short time so the chemotherapy stays in the tumor longer. Blocking the blood supply to the tumor also destroys cancer cells.

Two clinical trials have shown that this treatment can increase survival for some patients. In

addition to being used as a primary treatment for HCC, chemoembolization may be used to slow tumor growth for people who are on the waiting list for liver transplantation.

Radiation therapy

Radiation therapy is the use of high-energy x-rays or other particles to destroy cancer cells. A doctor who specializes in giving radiation therapy to treat cancer is called a radiation oncologist.

There are two types of radiation therapy used to treat HCC:

- **Stereotactic body radiation therapy (SBRT).** SBRT is a term that describes several methods of delivering high doses of radiation to a tumor while limiting the amount of radiation exposure to healthy tissues. This is important because healthy liver tissue can be damaged by radiation as well. SBRT effectively treats tumors that are approximately 5 cm or smaller. However, it is still considered relatively investigational compared to thermal ablation (see above) because little long-term information about response rates exists.

- **Radioembolization.** During radioembolization, a doctor places radioactive beads into the artery that supplies the tumor with blood in a way that's similar to chemoembolization (see above). The beads deliver radiation directly into the tumor when they become trapped in the small blood vessels of the tumor.

Depending on the type of radiation therapy recommended, your doctor will explain ways to protect your other organs from radiation exposure during treatment and the side effects that may occur. For internal radiation therapy, the side effects may include damage to the stomach and lungs. However, these side effects can often be prevented. Learn more about the basics of radiation therapy [8].

Targeted therapy

Targeted therapy is a treatment that targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment blocks the growth and spread of cancer cells while limiting damage to healthy cells.

Recent studies show that not all tumors have the same targets. To find the most effective treatment, your doctor may run tests to identify the genes, proteins, and other factors in your tumor. This helps doctors better match each patient with the most effective treatment whenever possible. In addition, many research studies are taking place now to find out more about specific molecular targets and new treatments directed at them. Learn more about the basics of targeted treatments [9].

For HCC, anti-angiogenesis drugs are the most common targeted therapy. Anti-angiogenesis

therapy [10] is focused on stopping angiogenesis, which is the process of making new blood vessels. Because a tumor needs the nutrients delivered by blood vessels to grow and spread, the goal of anti-angiogenesis therapies is to “starve” the tumor. This is one of the ways sorafenib (Nexavar) is thought to work. Sorafenib is one of the treatment options for advanced HCC that cannot be completely removed with surgery. It is taken as pill that is swallowed (orally). The side effects of sorafenib include diarrhea and certain skin problems. Talk with your doctor about the possible side effects for a specific medication and how they can be managed.

Other treatment options

Chemotherapy

Chemotherapy is the use of drugs to destroy cancer cells, usually by stopping the cancer cells’ ability to grow and divide. Chemotherapy is given by a medical oncologist, a doctor who specializes in treating cancer with medication.

Systemic chemotherapy gets into the bloodstream to reach cancer cells throughout the body. Systemic chemotherapy is typically given through an intravenous (IV) tube placed into a vein using a needle, but it can also be given orally (by mouth).

A chemotherapy regimen usually consists of a specific number of cycles given over a set period of time. A patient may receive one drug at a time or combinations of drugs at the same time. However, chemotherapy is less widely used nowadays for HCC.

The side effects of chemotherapy depend on the individual and the dose used, but they can include nausea and vomiting, hair loss, loss of appetite, diarrhea, fatigue, low numbers of blood cells, bleeding or bruising after minor cuts or injuries, numbness and tingling in the hands or feet, headaches, hair loss, and darkening of the skin and fingernails. These side effects usually go away once treatment is finished.

Learn more about the basics of chemotherapy [11] and preparing for treatment [12]. The medications used to treat cancer are continually being evaluated. Talking with your doctor is often the best way to learn about the medications prescribed for you, their purpose, and their potential side effects or interactions with other medications. Learn more about your prescriptions by using searchable drug databases [13].

Cryosurgery

This treatment uses extreme cold to freeze and destroy cancer cells.

Immunotherapy

Immunotherapy, also called biologic therapy, is designed to boost the body's natural defenses to fight the cancer. It uses materials made either by the body or in a laboratory to improve, target, or restore immune system function. Currently, immunotherapy is mainly being researched in

clinical trials for HCC and is not considered a standard treatment option.

Side effects of biologic therapy are similar to the flu and can include fatigue, fever, chills, muscle pain, and headache. Learn more about the basics of immunotherapy [14].

Clinical trials

In addition to the treatment options described above, the doctor may suggest participating in a clinical trial [3] that is evaluating a new treatment approach for HCC.

Getting care for symptoms and side effects

Cancer and its treatment often cause side effects. In addition to treatment to slow, stop, or eliminate the cancer, an important part of cancer care is relieving a person's symptoms and side effects. This approach is called palliative or supportive care, and it includes supporting the patient with his or her physical, emotional, and social needs.

Palliative care is any treatment that focuses on reducing symptoms, improving quality of life, and supporting patients and their families. Any person, regardless of age or type and stage of cancer, may receive palliative care. It works best when palliative care is started as early as needed in the cancer treatment process.

People often receive treatment for the cancer and treatment to ease side effects at the same time. In fact, patients who receive both often have less severe symptoms, better quality of life, and report they are more satisfied with treatment.

Palliative treatments vary widely and often include medication, nutritional changes, relaxation techniques, emotional support, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the cancer, such as chemotherapy, surgery, or radiation therapy. Talk with your doctor about the goals of each treatment in your treatment plan.

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and palliative care options. And during and after treatment, be sure to tell your doctor or another health care team member if you are experiencing a problem so it can be addressed as quickly as possible. Learn more about palliative care [15].

Metastatic HCC

If cancer has spread to another location in the body, it is called metastatic cancer. People with this diagnosis are encouraged to talk with doctors who are experienced in treating this stage of cancer because there can be different opinions about the best treatment plan. Learn more about getting a second opinion [16] before starting treatment, so you are comfortable with the treatment plan chosen. This discussion may include clinical trials [3] studying new treatments.

Your health care team may recommend a treatment plan that includes a combination of

chemotherapy (including sorafenib, see Targeted therapy above), radiation therapy, and/or other options. At this stage, the goal of treatment is typically to slow the cancer's growth. Palliative care will also be important to help relieve symptoms and side effects.

For most patients, a diagnosis of metastatic cancer is very stressful and, at times, difficult to bear. Patients and their families are encouraged to talk about the way they are feeling with doctors, nurses, social workers, or other members of the health care team. It may also be helpful to talk with other patients, including through a support group.

Remission and the chance of recurrence

A remission is when cancer cannot be detected in the body and there are no symptoms. This may also be called having "no evidence of disease" or NED.

A remission may be temporary or permanent. This uncertainty causes many people to worry that the cancer will come back. While many remissions are permanent, it's important to talk with your doctor about the possibility of the cancer returning. Understanding your risk of recurrence and the treatment options may help you feel more prepared if the cancer does return. Learn more about coping with the fear of recurrence [17].

If the cancer does return after the original treatment, it is called recurrent cancer. It may come back in the same place (called a local recurrence), nearby (regional recurrence), or in another place (distant recurrence).

When this occurs, a cycle of testing will begin again to learn as much as possible about the recurrence. After testing is done, you and your doctor will talk about your treatment options. Often the treatment plan will include the treatments described above, such as surgery, chemotherapy, and radiation therapy, but they may be used in a different combination or given at a different pace. Your doctor may also suggest clinical trials that are studying new ways to treat this type of recurrent cancer. Whichever treatment plan you choose, palliative care will be important for relieving symptoms and side effects.

People with recurrent cancer often experience emotions such as disbelief or fear. Patients are encouraged to talk with their health care team about these feelings and ask about support services to help them cope. Learn more about dealing with cancer recurrence [18].

If treatment fails

Recovery from cancer is not always possible. If the cancer cannot be cured or controlled, the disease may be called advanced or terminal.

This diagnosis is stressful, and advanced cancer is difficult to discuss for many people. However, it is important to have open and honest conversations with your doctor and health care team to express your feelings, preferences, and concerns. The health care team is there to help, and many team members have special skills, experience, and knowledge to support patients and

their families. Making sure a person is physically comfortable and free from pain is extremely important.

Patients who have advanced cancer and who are expected to live less than six months may want to consider a type of palliative care called hospice care. Hospice care is designed to provide the best possible quality of life for people who are near the end of life. You and your family are encouraged to think about where you would be most comfortable: at home, in the hospital, or in a hospice environment. Nursing care and special equipment can make staying at home a workable alternative for many families. Learn more about advanced cancer care planning [19].

After the death of a loved one, many people need support to help them cope with the loss. Learn more about grief and loss [20].

The next section in this guide is About Clinical Trials [3]*, and it offers more information about research studies that are focused on finding better ways to care for people with cancer. Or, use the menu on the side of your screen to choose another section to continue reading this guide.*

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