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Carcinoid Tumor - Treatment Options [1]

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ON THIS PAGE: You will learn about the different ways doctors treat people with a carcinoid tumor. 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 proven treatments available) for this specific type of tumor. 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 of your treatment options. For more information, see the 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].

Descriptions of the most common treatment options for a carcinoid tumor are listed below, followed by an outline of treatment options by stage for a gastrointestinal carcinoid tumor. Treatment options and recommendations depend on several factors, including the type and stage of cancer, possible side effects, and the patient?s preferences and overall health. Your care plan may also include treatment for symptoms and side effects, an important part of cancer care. Take time to learn about all of 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].

Surgery

Surgery is the removal of the tumor and surrounding tissue during an operation. A surgical oncologist is a doctor who specializes in cancer surgery. Complete removal of the entire tumor is the standard treatment when possible, and many carcinoid tumors are successfully treated with surgery alone. Often, the surgeon will also remove some healthy tissue around the tumor in hopes of leaving negative margins, which means there are no traces of cancer found in the

healthy tissue. When a complete removal of the tumor is not possible, debulking surgery is often used. Debulking surgery removes as much of the tumor as possible and may provide some relief from symptoms.

Talk with your health care team about the possible side effects of the specific operation beforehand and how they will be relieved or managed. Learn more about cancer surgery [7].

Surgery for a gastrointestinal carcinoid tumor

Local excision. During this operation, the surgeon removes the primary tumor and a margin of healthy tissue around the primary location. Most localized tumors can be surgically removed through a skin incision, but a rectal carcinoid tumor may be removed through the anus. Other gastrointestinal carcinoid tumors can sometimes be removed using an endoscope (see the Diagnosis [8] section).

Electro-fulguration (radiofrequency ablation, RFA). Sometimes used for rectal carcinoid tumors, this treatment destroys the tumor by heating it with an electric current.

Segmental colon resection or hemicolectomy. During this surgery, one-third to one-half of the colon, as well as nearby blood vessels and lymph nodes, are removed.

Low anterior resection. During this surgery, a portion of the upper part of the rectum is removed.

Abdominoperineal resection. This surgery is used for a larger tumor in the lower part of the rectum. It is the removal of the anus, rectum, and part of the colon. After surgery, a colostomy [9] may be used to carry wastes out of the body. A colostomy is an opening from the colon to the outside of the body.

Procedures to treat cancer that has spread to the liver

Liver resection. This surgery removes areas of metastases from the liver. It is not expected to eliminate the cancer, but it often helps relieve or reduce the symptoms of carcinoid syndrome.

Liver transplantation. Liver transplantation is rarely used as a treatment for carcinoid tumor, but it may help younger patients with a carcinoid tumor that began in the liver.

Intratumoral ethanol injection. A CT scan is used to guide a needle into the areas of tumor spread, which are then destroyed by injecting concentrated alcohol through the needle. Liquid nitrogen can also be used to cool the needle and destroy the cells by freezing. These methods are particularly useful if traditional surgical procedures are difficult or impossible to perform.

Hepatic artery occlusion or embolization. These procedures block the tumor?s blood supply by sealing off the blood vessels leading to the tumor. The effectiveness of chemotherapy combined with hepatic artery embolization is not yet clear and continues to be studied. This treatment can cause severe side effects and is only considered when other treatment options are not working.

Surgery for a lung carcinoid tumor

Sleeve resection. The tumor is surgically removed along with parts of the airway above and below the tumor. The airway is then reconnected.

Wedge resection. During this surgery, a small, wedge-shaped piece of the lung is removed. This surgery is used if the tumor is very small.

Lobectomy. During this surgery, an entire lobe of a lung is removed. This surgery is often used if a sleeve resection is not possible because of the size and location of a tumor. A lobectomy is also used if a carcinoid tumor is found at the edge of the lungs, away from large airways.

Pneumonectomy. During this surgery, an entire lung is removed.

Lymph node dissection. Removal of the lymph nodes near the lungs is also common during surgery for a lung carcinoid tumor. Removing the lymph nodes reduces the risk of the carcinoid tumor spreading to other organs.

Radiation therapy

Radiation therapy is the use of high-energy x-rays or other particles to destroy cancer cells. A radiation therapy regimen (schedule) usually consists of a specific number of treatments given over a set period of time. A doctor who specializes in giving radiation therapy to treat cancer is called a radiation oncologist.

The most common type of radiation treatment is called external-beam radiation therapy, which is radiation given from a machine outside the body. External-beam radiation therapy is the most common radiation treatment for a carcinoid tumor. It is most often used to relieve symptoms, such as pain, caused by cancer that has spread to the bone as part of palliative care (see below).

A second type of radiation treatment is internal radiation or brachytherapy. Internal radiation therapy is the use of tiny pellets or rods containing radioactive materials that are surgically implanted in or near the site of the tumor. The implant is left in place for several days while the patient stays in the hospital.

Patients receiving radiation therapy may experience fatigue during treatment, and the treated area may become red and dry. Radiation therapy to the chest or neck can cause a dry, sore throat, or a dry cough. Some patients have shortness of breath during radiation therapy. Most side effects go away after the treatment is finished. Learn more about radiation therapy [10].

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 is delivered through the bloodstream to reach cancer cells throughout the body. Common ways to give chemotherapy include an intravenous (IV) tube placed into a vein using a needle or in a pill or capsule that is swallowed (orally). A chemotherapy regimen (schedule) 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 different drugs at the same time.

Chemotherapy for a carcinoid tumor is most often used when the tumor has spread to other organs or is causing severe symptoms. A carcinoid tumor usually does not respond to chemotherapy alone, and other treatments may be necessary.

The side effects of chemotherapy depend on the individual and the dose used, but they can include fatigue, risk of infection, nausea and vomiting, hair loss, loss of appetite, and diarrhea. These side effects usually go away once treatment is finished.

Learn more about 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 the searchable drug databases [13].

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. Immunotherapy, such as alpha-interferon and octreotide, may shrink a carcinoid tumor or stop its growth. These therapies work by changing the surface proteins of cancer cells and by slowing their growth. Biologic therapies are also used to treat symptoms by controlling the production of hormones. Learn more about immunotherapy [14].

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. As a result, doctors can 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 targeted treatments [15].

For carcinoid tumors, targeted therapies being researched in clinical trials include drugs that interfere with new blood vessel formation or with specific survival pathways of cancer cells. Research continues on these and other approaches. Talk with your doctor about possible side effects for a specific medication and how they can be managed.

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 can help a person at any stage of illness. 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, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the cancer, such as chemotherapy, surgery, and radiation therapy. Talk with your doctor about the goals of each treatment in your treatment plan.

For some people, such as those with lung disease, heart disease, or other specific medical conditions, surgery cannot successfully treat the cancer. In these cases, palliative surgery to relieve symptoms can be helpful, such as removing most of the tumor through a bronchoscope or vaporizing most of it with a laser. Palliative surgery is often used together with radiation therapy (see below). These treatments can help relieve symptoms caused by blocked airways.

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and supportive 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 is addressed as quickly as possible. Learn more about palliative care [16].

Treatment of a gastrointestinal carcinoid tumor by stage

Localized

Stomach. A localized carcinoid tumor of the stomach can often be completely removed through an endoscope. A tumor larger than 2 centimeters (cm) is removed with a margin of surrounding stomach tissue through an incision in the abdomen. For patients whose carcinoid tumor is stimulated by gastrin, a hormone released by cells of the antrum of the stomach (the part next to the small intestine), the removal of the antrum may be recommended.

Small intestine. Surgery to remove the tumor and surrounding tissue is the most common treatment for a carcinoid tumor smaller than 1 cm located in the small intestine. Surgery for a larger tumor involves removing more surrounding tissue, as well as some surrounding blood vessels and lymph nodes.

Large intestine. The most common treatment for a tumor smaller than 2 cm is the surgical removal of the tumor and surrounding tissue, often done through a colonoscope (see the Diagnosis [8] section). If the tumor is larger than 2 cm, surgery most often involves an incision through the skin.

Appendix. An appendectomy (removal of the appendix) is usually the only treatment needed for a carcinoid tumor smaller than 1.5 cm. For a tumor larger than 2 cm, the removal of about one-third of the colon next to the appendix, along with nearby blood vessels and lymph nodes, is often needed.

Rectum. A rectal carcinoid tumor smaller than 1 cm is treated with electro-fulguration, which destroys the tumor by heating it with an electric current. A tumor larger than 2 cm is more likely to grow and spread quickly, so it is removed using the same procedure as is used for rectal cancer [17] in which some of the healthy tissue of the colon or rectum and some of the nearby lymph nodes are removed.

Regional spread

Whenever possible, the primary tumor and areas of spread to nearby tissues and lymph nodes are removed during surgery. If this is not possible, surgery can help relieve symptoms, such as intestinal blockage.

Distant spread

If cancer has spread to another location in the body, it is called metastatic cancer. Patients 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 seeking a second opinion [18] before starting treatment, so you are comfortable with the treatment plan chosen. This discussion may include clinical trials [3].

Your health care team may recommend a treatment plan that includes a combination of the types of treatment described above. Surgery is used to relieve symptoms rather than eliminate the cancer at this stage. If distant metastases are not causing symptoms, surgery may not be needed. If carcinoid syndrome is causing symptoms, surgery to remove as much cancer as possible is often recommended. Chemotherapy and radiation therapy may also be offered to help relieve symptoms. Participation in clinical trials is encouraged. Supportive 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 ?no evidence of disease? or NED.

A remission can be temporary or permanent. This uncertainty leads to many survivors feeling worried or anxious 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 the 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 [19].

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, including whether the tumor?s stage has changed. After testing is done, you and your doctor will talk about your treatment options. Often the treatment plan will include the therapies 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.

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 [20].

If treatment fails

Recovery from a carcinoid tumor is not always possible. If treatment is not successful, the disease may be called advanced or terminal cancer.

This diagnosis is stressful, and this 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 [21].

After the death of a loved one, many people need support to help them cope with the loss. Learn more about grief and loss [22].

The next section helps explain clinical trials, which are research studies. Use the menu on the side of your screen to select About Clinical Trials, or you can select another section, to continue reading this guide.

Links:
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[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/18653
[4] http://www.cancer.net/node/18656
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