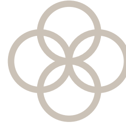

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ORAL FACIAL SURGERY

PATIENT AND FAMILY INFORMATION REGARDING SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK AREA

JON D. HOLMES D.M.D., M.D., FACS

Introduction

The diagnosis of your lesion is **squamous cell carcinoma**. This type of cancer arises from the surface lining of the mouth, throat, or other areas just as it can arise from the surface of the skin or other parts of the body. It is one of the most common types of cancer to occur in the head and neck area. If this disease were to go untreated, the tumor would grow at a fairly slow rate until it attains a certain size at which time it would shed off tiny cells that would attempt to spread to other parts of the body. This process is called **metastasis** and it is this characteristic that differentiates a **malignant cancer** from a benign tumor.

The Lymphatic System

In the head and neck area, like other parts of the body afflicted by cancer, squamous cell carcinoma tends to spread through the lymphatic system. The lymphatic system is a series of tubes throughout the body that carry a body fluid called lymph. In a sense, this system is much like our system of blood vessels; however, the lymph vessels are much, much smaller and the lymph fluid is colorless. Another very important difference between the lymph system and the system that carries blood is that the lymph system contains a series of filters called **lymph nodes** or lymph glands. These lymph nodes serves as filters, much like an automobile engine has an oil filter to filter out impurities in the oil. Often, when we have an infection these glands will swell. The head and neck area contains many more lymph nodes than any other part of the body. In fact, of the 700 or so lymph nodes contained within the human body, half are located above the collarbones. What this means is that the lymph nodes in the head and neck area are much more efficient as filters than they are in other parts of the body. It is only very late in the progression of head and neck squamous cell carcinoma that the cancer spreads beyond these lymph nodes in the neck to involve other areas such as the lung or the liver.

The Information Gathering Process

Before we plan treatment of your cancer, we must obtain accurate information upon which we will base our choices and decisions. The biopsy has provided the information as to the identity of the type of cancer – squamous cell carcinoma. A thorough exam in the office will usually be followed by a special exam using a lighted tube that is passed through the nose to examine the nose and throat.

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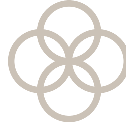

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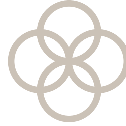
Special X-rays, such as a **CT scan** (also called computerized tomography or CAT scan) or an **MRI** (magnetic resonance imaging will give us a 3-dimensional view of the tumor. These will give us a clearer picture of the tumor and also will help us to see if there are any lymph nodes in the neck that are enlarged which may signify that they are in the process of filtering out cancer cells. A **PET scan** (positron emission tomography) is another study that may be ordered. It helps detect the spread of cancer beyond the head and neck area. Some patients may also require a **panendoscopy** which is a detailed visual examination of the throat, voice box and swallowing passage done under general anesthesia. Additional testing includes routine blood work and a chest X-ray. Unfortunately, there is no reliable single test that will tell us if the cancer has spread to other parts of the body, although the chance of that is very low in early head and neck cancer.

Treatment and Planning Options

Treatment planning for cancer of the head and neck usually requires a team of doctors and health care professionals. Throughout the information gathering process and the treatment of the cancer, you will meet several doctors and other professionals who will offer their advice and opinions regarding the best course of treatment. Your case may be discussed in the setting of a “tumor board”, which is made up of different cancer specialists who attempt to arrive at the best treatment plan for you. Two parts must be considered when planning treatment. The first is the problem of the primary site where the cancer started and the second is the possibility that there may be cancer cells within the lymph node filters in the neck. Our treatment plan must be designed to treat both the primary cancer at its starting point and also to treat any malignant cells that are in the lymph nodes in the neck. Sometimes the treatment of these areas may differ. The treatment of squamous cell cancer in the head and neck is like the treatment of cancer anywhere else in the body. We have three general categories of treatment available. Despite what you may read in the Sunday newspaper or on the Internet about new cancer “breakthroughs”, the treatment tends to fall within one of these three categories:

1. Chemotherapy

Chemotherapy consists of a course of medications that are usually given through an IV by a specialist in medical oncology. In the United States, medical oncologists are referred to as “oncologists”. In other malignant diseases such as leukemia, chemotherapy has made tremendous strides and now is frequently curable with chemotherapy alone. Regarding squamous cell carcinoma of the head and neck, chemotherapy is of more limited usefulness. In some patients, it is helpful in reducing the size of a tumor, which can allow subsequent therapy such as radiation or surgery to be more effective. Chemotherapy is usually given in a series of two or three treatment cycles separated by recovery periods of three or four weeks. The medical oncologist administers the chemotherapy either on an inpatient (in the hospital) or outpatient (clinic) basis. Side effects may include a temporary feeling of illness or nausea, as well as, temporary hair thinning or loss. Chemotherapy may also be given in combination with radiation treatments, but this tends to increase side effects. The decision to give chemotherapy is an individual one that is based on the characteristics of your cancer.



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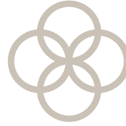
2. Radiation Therapy

Radiation therapy is given by a specialist called a radiation oncologist and is given at a radiation center, which may be affiliated with a hospital. After an initial planning session, the treatments are brief, and are usually given daily Monday through Friday. The total course of treatment usually lasts six to seven weeks. Radiation therapy is a beam of energy, which is somewhat like a beam of light except that radiation therapy beams go right through the body and does not cast a shadow. The radiation beam injures all body tissues within the precise area within which the beam is focused. This injury is lethal to cancer cells and is an injury that the normal tissues recover from, although there are some side effects. Radiation therapy is very useful for small tumors and wiping out small bits of cancer. When a cancer is larger or when it is close to bone, radiation therapy is less useful as a single means of treatment. More commonly, radiation therapy is combined with chemotherapy or surgery like a 1-2 punch to produce a greater response. If this is recommended, radiation treatment is usually started 4-6 weeks after surgery to allow for healing to occur. The most common side effects of radiation in the head and neck are related to a relative drying of saliva and changes in taste. This reduction in the amount of saliva requires strict daily tooth brushing and flossing, and daily application of fluoride to the teeth for life. Radiation therapy also tends to temporarily drain ones energy and patients commonly observe that they feel fine during the early part of treatment only to be quite tired at the end of the six to seven weeks. The energy slowly returns.

3. Surgery

Surgery at the primary site seeks to remove the primary cancer with a rim of uninvolved tissue surrounding it. Surgery for the lymph nodes in the neck involves removing these lymph nodes through an operation called a neck dissection. Another role of surgery at the primary site is to rebuild (reconstruct) the defect created by removal of the cancer. A number of reconstructive techniques are used. Some of these techniques use tissue from areas close to the area (regional), and some involve bringing tissue from other parts of the body such as the skin of the wrist or one of the bones of the lower leg to rebuild the mouth or jaw. Surgery for squamous cell carcinoma of the head and neck may require a tracheostomy, which is a temporary breathing tube placed into the windpipe of the neck. The tracheostomy tube is almost always removed before discharge from the hospital. Side effects from surgery involve some limitation of unction of the involved areas, numbness (no feeling) in the area and possible deformity. Following a neck dissection, some patients will experience a loss of function of one of the shoulder muscles (trapezius) that can cause a painful shoulder condition that is almost always temporary, but may be permanent.



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Combination Therapy

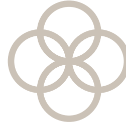
It has been determined that of the three ways to treat cancer, no one way is generally better to the others and commonly the three techniques are combined to produce the best results. Chemotherapy and radiation therapy is often given simultaneously for enhanced tumor-killing effect. In other situations, surgery is often followed by radiation therapy for better results. The final decision for recommending radiation and/or chemotherapy is often made after the pathologist examines the tumor (and lymph nodes if removed).

Dental Considerations

It is well known that radiation therapy and bad teeth do not mix. The reason for this is that the radiation therapy reduces the blood supply to the radiated tissues and thus decreases the ability of the irradiated tissue to heal. Also, the decreased saliva and sore mouth that is caused by radiation make oral hygiene difficult. Any injury or surgery, such as extraction (removal) of a tooth that might follow radiation therapy can result in an extremely painful wound that will not heal without complex and costly therapy. This effect is particularly true in the lower jaw and even a minor dental infection or gum boil that occurs after radiation can produce a major infection that is difficult to treat. We have learned that bad or even questionable teeth need to be removed before radiation therapy begins and that good teeth need to be evaluated by a dentist before radiation treatment begins. When good teeth are preserved through radiation treatment, the patient must keep excellent oral hygiene, including brushing and flossing, for life. Custom-made carriers for daily application of fluoride are also used. The side effects of radiation therapy do not get better over time; they stay the same or get worse.

Nutrition

Nutrition is a critical part of every head and neck cancer patient's care. All aspects of cancer treatment greatly increase the amount of calories your body requires. This occurs at a time when eating is difficult because the mouth is sore from therapy or healing after surgery. Years ago, head and neck cancer patients used to lose large amounts of weight as they went through treatment, weakening them and also making their cancer treatment more difficult. Feeding through a tube placed through the nose into the stomach helps and is sometimes still used, but it is difficult to keep a tube through the nose for three or four months. A **PEG** (percutaneous endoscopic gastrostomy) tube may be recommended. A **PEG** feeding tube that is placed though the stomach wall with a technique that does not require an actual open operation. The tube provides a lifeline for nutrition and medication when the mouth and throat are sore from treatment. It can be concealed under clothes when it is not in use. The PEG is usually in place for three to four months and does not interfere with normal eating by mouth. When it is no longer needed and the patient is maintaining their weight by eating exclusively through the mouth, the tube is pulled out and the hole closes by itself. Even if a PEG tube is placed, it is important to try and take some nutrition by mouth as this maintain the ability to swallow.



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Follow-up

After the cancer therapy is completed, a structured follow-up program is necessary to periodically re-evaluate you to check for recurrence of the cancer or the possible development of a new head and neck cancer. These appointments are usually scheduled every two to three months or so during the first year and the interval between appointments increases during the second year. For patients outside the Birmingham area, we can often alternate appointments with your local doctor to minimize the number of trips you have to make to Birmingham. After five years, most head and neck cancer patients are discharged, with instructions to call or return if problems arise.

Useful websites:

www.oralcancerfoundation.org

Some of the material in this handout was borrowed with permission from Dr. Eric Dierks, Portland, Oregon.

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