

ANAL CANAL CANCER

OVERVIEW

The anus, which is about 1-1/2 inches long, connects the rectum (lower part of the large intestine) to the outside of the body. It allows solid waste (also called stool or feces) to pass from the body. The sphincter is two muscles that open and close the anus to let waste pass. The anus is lined with squamous cells, which also are found in the bladder, cervix, vagina, urethra and other places in the body.

TYPES OF ANAL CANCERS

Several types of tumors may be found in the anus. While some of them are malignant (cancer), others are benign (not cancer) or precancerous (may develop into cancer). The main types of anal cancer are:

- **Carcinoma in situ** is early cancer or precancerous cells. They are only on the surface cells of the anal canal. This also may be called Bowen's disease.
- **Squamous cell cancer** (carcinoma) forms in the cells that line the anus. This is the most common type of anal cancer.
- **Adenocarcinomas** develop in the glands around the anus.
- **Skin cancers**, including basal cell and melanoma, often are found when they are in advanced stages.

RISK FACTORS

Anything that increases your chance of getting anal cancer is a risk factor.

These include:

- Age: Squamous cell carcinoma of the anus most often is found in people older than 50
- Human papillomavirus (HPV) infection
- Human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS)
- Having multiple sexual partners
- Anal intercourse
- Frequent anal redness, swelling and soreness
- Tobacco use
- Immunosuppression, including taking immune-suppressing drugs after an organ transplant

Not everyone with risk factors gets anal cancer. However, if you have risk factors, it's a good idea to discuss them with your doctor.

SYMPTOMS

Anal cancer often does not have symptoms. When it does have symptoms, they vary from person to person. If you have anal cancer symptoms, they may include:

- Anal or rectal bleeding
- Pain or pressure around the anus
- Change in bowel habits
- Narrower stool than usual
- A lump close to the anus
- Swollen lymph nodes in the anal or groin area
- Anal discharge

These symptoms do not always mean you have anal cancer. However, it is important to discuss any symptoms that last more than two weeks with your doctor, since they may signal other health problems.

DIAGNOSIS

One or more of the following tests may be used to find out if you have anal cancer and if it has spread. These tests also may be used to find out if treatment is working.

- A digital rectal exam in which your physician inserts a gloved, lubricated finger into the anus and rectum to feel for lumps or other abnormalities.

Imaging tests, which may include:

- Anoscopy: A short tube with a camera is inserted into the anus and lower rectum. The doctor examines the anus and can biopsy tissue.
- Proctoscopy: A short tube with a camera is inserted into the anus to the rectum. The doctor examines the anus and can biopsy tissue.
- Colonoscopy
- Virtual colonoscopy or CT (computed tomography) colonoscopy
- CT (computed tomography) scans; also called CAT scans
- MRI (magnetic resonance imaging) scans
- PET/CT (positron emission tomography) scans
- Endo-anal or endorectal ultrasound: An endoscope is inserted into the anus. A probe at the end of the endoscope bounces high-energy sound waves (ultrasound) off organs to make an image (sonogram). Also called endosonography.

- Chest X-Ray

Fine-needle aspiration biopsy: Anal cancer may spread through the lymph system, and sometimes it is found in lymph nodes. A tiny needle is placed into a lymph node, and cells are removed and looked at with a microscope. A positive lymph node biopsy may help the doctor decide what areas to treat with radiation therapy.

TREATMENT

Every effort is to preserve the sphincter without affecting control of bowel movements, and we at Omega Hospitals use all means possible to decrease the risk of a colostomy. A colostomy is when the end of the colon (large intestine) is brought through an opening (stoma) in the abdominal wall. A bag is attached to the outside of the patient's belly to collect bowel movements.

In the majority of cases, a colostomy is not required, as many cancers can be cured with chemotherapy and radiation alone. A colostomy may be needed if the tumor does not respond well to therapy or recurs after treatment. For advanced anal cancers or unusual types, the surgeon may need to remove the rectum and anus and create a permanent colostomy. Sometimes this is the only way to remove all the cancer cells.

Combination therapy with radiation and chemotherapy is considered the gold standard treatment for most anal cancers. Sometimes, very small or early-stage tumors may be removed surgically without the need for further treatment. If the cancer is advanced, major surgery may be required to remove the tumors.

If you have anal cancer that has spread and/or have HIV or AIDS, we offer the most advanced treatments, as well as clinical trials of new agents.

The team of specialists focusing on your care will discuss with you the best options to treat it. This depends on several factors, including:

- The stage of anal cancer
- Location of the tumor in the anus
- If you have human immunodeficiency virus (HIV) or other immunosuppressed condition
- If the cancer has just been diagnosed or if it has returned after being treated
- Your age and general health

Treatments for anal cancer, which may be used to fight the cancer or help relieve symptoms, may include:

Radiation Therapy

Radiotherapy is often the first treatment used in anal cancer, with or without chemotherapy. Radiotherapy uses repeated treatments of high energy X-rays in small doses to kill cancer cells. The treatments are given Monday to Friday over a period of 5 - 6 weeks, and usually as an out-patient.

You may be given radiotherapy:

- To get rid of the cancer – this is usually in combination with chemotherapy.
- To shrink a tumour to make it easier to remove completely.
- To control the cancer and relieve symptoms it may be causing

Teletherapy(ExternalRadiotherapy) consists of treating the patient from distance. This is one of the earliest forms of radiotherapy treatments. Technology innovations in the field of medicine for diagnosis, identification and imaging of tumors coupled with explosion of advancements in accelerator technology and tracking software's led to more precise and accurate delivery of treatment by External Radiotherapy (XRT).

Different types of delivery of XRT are:

- 3-dimensional conformal radiotherapy(3-DCRT)
- Intensity modulated radiotherapy(IMRT)
- Volumetric modulated radiotherapy(VMAT)
- Image Guided radiotherapy(IGRT)

3DCRT:- This technique consists of treatment of the tumors with radiation in such a way that the radiation dose is conformed to the target. This helps in achieving the aim of sparing the normal organs and other critical structures to a certain extent. Main limitation is that the radiation beams that are delivered are un-modulated and there is no control over the uniformity of the dose that is being given. It is generally used in a low resource setting as this requires minimal technical expertise.

IMRT:- Intensity Modulated Radiotherapy is an advanced form of radiotherapy that evolved from 3DCRT in which the radiation beams are modulated at different angles to achieve a desired dose distribution more uniform inside a target and at the same time sparing a critical structure in the vicinity of the target. The technique requires great skill and technical expertise in planning and delivery of radiation. In this type of delivery of radiation, doses are given in such a way that it takes the shape of the target thus giving us the opportunity of saving even the normal organs that are very close to the target.

VMAT:- Evolved from and a type of IMRT, this is a highly advanced technique in which the beams are modulated same as IMRT but there are critical differences between them making it highly advanced technique of delivery of radiation. In this type, there will be continuous rotation of the gantry with varying speed, continuous variable dose rate, shaping of the target during this process. This helps in faster treatment delivery (treatment time generally varies between 3 to 4 minutes) depending on the location and size of the target. The technique is especially use in structures that move with respiration like lungs, prostate, liver etc.

Internal radiotherapy (brachytherapy) means radioactive material is placed next to the tumour, inside the body.

Chemotherapy

- Chemotherapy is usually offered alongside radiotherapy as it can enhance the effect of radiotherapy (chemoradiation).
- The most common chemotherapy you will be offered is Mitomycin-C in combination with 5FU (fluorouracil). This is given intravenously (into your vein).
- capecitabine can be taken as a tablet instead of 5FU.
- A typical cycle of treatment would be five weeks, with chemotherapy being given during the first and fifth week alongside radiotherapy.

Surgery

If surgery is needed to treat anal cancer, one of the following procedures:

- **Local resection:** The tumor, along with some of the tissue around it, is surgically removed.
- **Abdominoperineal resection (APR):** The anus, the rectum and part of the colon are removed through an incision in the abdomen. The end of the intestine is attached to an opening (stoma) in the abdomen. Body waste leaves this opening and is collected in a plastic bag outside the body. This also is called a colostomy.

Targeted Therapies

These agents are specially designed to treat each cancer's specific genetic/molecular profile to help your body fight the disease.

PREVENTION

Certain lifestyle choices can help prevent anal cancer. One of the most important is to avoid HPV infection. Some ways you can lower your chances of getting HPV include:

- Use condoms during sex
- Avoid sex with people with sexually transmitted diseases (STD) or who have had multiple sexual partners
- Don't smoke or use other types of tobacco
- Get an HPV vaccine. Gardasil® and Cervarix® help protect against certain types of HPV. But if you have HPV, they do not cure it.

SCREENING

Anal cancer screening can potentially detect early-stage cancer in healthy individuals who do not have symptoms. Because tumors tend to be most receptive to treatment during its early stages, screening can be important.

Current anal cancer screening methods and guidelines include:

- Digital (finger) rectal exams (DRE) – Performed annually for men over age 50
- Comprehensive pelvic exams that include DREs – Initially performed when a woman becomes sexually active and annually thereafter
- Anal cytology (Pap smear) – Performed for certain high-risk individuals at a physician-determined frequency

PROGNOSIS

Most anal cancers are cured with combination therapy. If caught early, many cancers that come back after nonsurgical treatment are treated effectively with surgery. While combination radiation/chemotherapy produces more side effects, this approach also results in the best long-term survival rates. After completing this treatment, as many as 70-90% of patients are still alive and cancer free at 5 years.

AFTER TREATMENT CARE

After treatment care Following treatment for anal cancer you may experience side-effects for a few months, such as bloating, wind, diarrhoea or even occasional incontinence. This can be distressing, but should be temporary. Talk to your doctor or nurse for advice on how to manage these side-effects and, if problems persist, s/he can refer you to another specialist for treatment. You will be followed up for 5 to 10 years beyond treatment.