Cancer is curable or at least controllable for many years provided the treatment is delivered by a team of experts in cancer treatment working with fine coordination.

Cancer is not curable without treatment which makes it different from other diseases.

Cancer is an uncontrolled multiplication, starts with of a few body cells which keep on dividing and leading to a growth which finally may spread to nearby structures as well as to other parts of body. These cell growths are of no use but affect the other normal organ functions. There are no specific symptoms of cancer. It all depends on the site, extent and organ affected by these growths.

Cancer is different from other diseases as it is almost never cured without treatment. Cancer is not a single disease but a group of more than 100 types, subtypes and stages of diseases. The biological behavior varies from very slow growing cancers where patient may live for years even without treatment and to some very aggressive types where the survival is in weeks only. Thus, delay in consulting with a specialist due to frightening or social stigma is of no use like many other problems.

In most of the cases, cancer treatment is not an emergency as the disease usually starts months to years before clinical symptoms and diagnosis. So, before starting the treatment, a thorough investigation and diagnostic workup under guidance of a cancer specialist or a team of specialists is most helpful for best treatment and best results. A delay of few days in this process hardly matters.

About 60 years back, surgery was the only major treatment available for cancer treatment. During later half of last century a lot of work has been done on cancer treatment and other treatment modalities like chemotherapy, radiotherapy, hormonal therapy and immunotherapy have emerged with vast contribution in cancer care. Appropriate combinations of these modalities have increased the cancer cure rate many fold during last couple of decades with much reduction in side effects. Today, along with cure of cancer, the quality of life is also considered as a part of cancer management.

In today's scenario, the management of cancer is Multimodal Treatment (i.e. more than one treatment modalities and experts) in more than 70% cases. For example, most of the patients of breast cancer are treated with a combination of surgery, chemotherapy, radiotherapy and many of them also require further hormonal and immunotherapy. The combined approach during last few decades has made this highly incurable cancer to a highly curable cancer. Same is true in most of other cancers also.
LUNG CANCER is the second most common cancer and the leading cause of cancer deaths for men and women. Lung cancer represents 15% of all cancer diagnoses and 28% of all cancer deaths.

**PREVENTION**
The most important way to prevent lung cancer is to avoid tobacco smoke. People who never smoke have the lowest risk of lung cancer. People who smoke can reduce their risk of lung cancer by stopping smoking, but their risk of lung cancer will still be higher than people who never smoked.

**SYMPTOMS AND SIGNS**
People with lung cancer may experience the following symptoms or signs. Sometimes people with lung cancer do not show any of these symptoms. Or, these symptoms may be caused by a medical condition that is not cancer. If you are concerned about a symptom or sign on this list, please talk with your doctor.
- Fatigue
- Cough
- Shortness of breath
- Chest pain
- Loss of appetite
- Coughing up phlegm or mucus
- Hemoptysis (coughing up blood)

**SCREENING**
Recently, a large study called the National Lung Screening Trial showed that, in patients who are current or former heavy smokers, the use of a screening test called a low-dose helical (or spiral) computed tomography (CT or CAT) scan decreases the risk of death from lung cancer by 20%. A CT scan creates a three-dimensional picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. CT scanning is not recommended for every smoker. Doctors still need to prove that screening everyone at risk for lung cancer reduces rates of death from lung cancer in the general population.

**DIAGNOSIS**
Doctors use many tests to diagnose cancer and find out if it has spread from the lung. Some tests may also determine which treatments may be the most effective. For most types of cancer, a biopsy is the only way to make a definitive diagnosis of cancer.

**Biopsy**
A biopsy is the removal of a small amount of tissue for examination under a microscope. The sample removed from the biopsy is analyzed by a pathologist (a doctor who specializes in identifying cancer and the tissues that cause diseases) to determine if cancer is present. If cancer cells are present, the pathologist will determine if it is small cell lung cancer or Non Small Cell Lung Cancer, based on its appearance under the microscope.

**IMAGING TESTS**
In addition to biopsies and surgical procedures, imaging scans are vital to the care of people with lung cancer. However, no test is perfect, and no scan can diagnose lung cancer. Only a biopsy can do that. Chest x-ray and CT scan, PET scan results must be combined with a person’s medical history, a physical examination, blood tests, and biopsy information to form a complete story about where the cancer began and whether or where it has spread.

**TREATMENT**
There are four basic ways to treat lung cancer: surgery, radiation therapy, chemotherapy, and targeted therapy.

**SURGERY**
Surgery is the removal of the tumor and surrounding tissue during an operation. A surgical oncologist is a doctor who specializes in treating cancer using surgery. For lung cancer, a thoracic surgeon is specially trained to perform lung cancer surgery. The goal of surgery is the complete removal of the lung tumor and the nearby lymph nodes in the chest. The tumor must be removed with a surrounding border of normal lung tissue (called the margin).

**ADJUVANT THERAPY**
Adjuvant therapy is treatment that is given after surgery to lower the risk of the lung cancer returning. Adjuvant therapy includes radiation therapy and chemotherapy. Adjuvant therapy is intended to eliminate any lung cancer cells that may be lingering in the body. It may decrease the risk of recurrence, though some risk will remain.

**RADIATION THERAPY**
Patients with lung cancer are treated with radiation therapy for curative and also palliative purposes. Radiation therapy involves use of rays to kill cancer cells. Radiotherapy has many advances in present times and techniques like IMRT, IGRT, SBRT have improved the responses and at the same time decreased side effects.

**CHEMOTHERAPY**
Chemotherapy is the use of drugs to kill cancer cells, usually by stopping the cancer cell’s ability to grow and divide. Systemic chemotherapy is delivered through the bloodstream to reach cancer cells throughout the body. A person may receive one drug at a time or combinations of different drugs at the same time.

**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 normal cells, usually leading to fewer side effects than other cancer medications.

At Max Super Speciality Hospital, Mohali, we have a comprehensive cancer care including all the recent modalities of treatment. The Center is also equipped with HDR (High Dose Rate) Brachytherapy, 16 Slice GE CT Scan with LAP Laser for the treatment of CT Simulation and advance Mould Room. Dose Rate) Brachytherapy, 16 Slice GE CT Scan with LAP Laser for conventional RT. The Center is also equipped with HDR (High Dose Rate) Brachytherapy, 16 Slice GE CT Scan with LAP Laser for conventional RT. The Center is also equipped with HDR (High Dose Rate) Brachytherapy, 16 Slice GE CT Scan with LAP Laser for conventional RT. The Center is also equipped with HDR (High Dose Rate) Brachytherapy, 16 Slice GE CT Scan with LAP Laser for conventional RT. The Center is also equipped with HDR (High Dose Rate) Brachytherapy, 16 Slice GE CT Scan with LAP Laser for conventional RT.
HEREDITARY BREAST CANCER

Breast cancer is the most common cancer among women worldwide and second only to cervical cancer in India. 1 out of 8 among all women can expect to develop breast cancer in their lifetime. Most breast cancers occur sporadically, but because it is a common disease, about 20% have a positive family history. Hereditary breast cancer is the one with identifiable hereditary predisposition. Approximately 5% to 10% of all women with breast cancer may have hereditary breast cancer. Mutations of BRCA1 (chromosome 17q21) and BRCA2 (chromosome 13q12,13q13) are responsible for 90% of hereditary breast cancer. Other genes implicated for hereditary breast cancer are PTEN, p53, MLH1, MLH2 and STK11.

BRCA1 and BRCA2 mutations

Specific mutations of BRCA1 and BRCA2 are transmitted as autosomal dominant trait. These are more common in women of Ashkenazi Jewish ancestry. The estimated lifetime risk for developing breast cancer in women with a BRCA1 or BRCA2 mutation is 40% to 85%, and the risk for developing bilateral breast cancer is 20% to 40%. Mutations in either gene also confer a 20% to 40% increased lifetime risk for developing ovarian cancer.

Indications for Genetic Testing

Whether to undergo genetic testing for BRCA1 and BRCA2 is a complex decision and has implications on individual as well as family members. Genetic testing is available commercially. All patients should undergo genetic counselling before the test. The indications for genetic testing for breast cancer and ovarian cancer are as follows:

- Two or more family members with breast and/or ovarian cancer at age less than 50 years
- Breast cancer and or ovarian cancer at a very young age
- Known BRCA1 or BRCA2 mutations in a family member
- Same patient being diagnosed with both breast cancer and ovarian cancer
- One or more family members younger than 50 years with breast cancer and having Ashkenazi Jewish ancestry
- Patients with ovarian cancer having an Ashkenazi Jewish ancestry.

Management of BRCA mutation carriers

If the test is positive patients have following options:

- Intense screening using mammogram or magnetic resonance imaging (MRI)
- Chemoprevention using tamoxifen may be considered
- Bilateral prophylactic mastectomy, which could prevent breast cancer in 90% to 100%
- Prophylactic oophorectomy alone reduces breast cancer by 50%.

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KIDNEY CANCERS ARE FAST GROWING TUMORS, ACCOUNT FOR 3% OF ALL CANCERS IN HUMAN.

The most common variety is Renal Cell Carcinoma (RCC) – ‘Clear Cell’ being predominant histological type (75%). Yearly about 10 cases of RCC per 1 lakh population detected, mostly over 50 years, twice in male than female. Familial cancers (VHL syndrome) present at younger age, with multiple tumors. Smoking increases the risk by 2 folds; as is chronic exposure to asbestos and cadmium. 50% RCC are detected incidentally. Usual symptoms are flank pain, hematuria, feeling of lump or heaviness. Constitutional symptoms (fever, tiredness, loss of weight & appetite) and paraneoplastic syndrome occur in 30%. CECT and MRI are main stay of diagnosis (specificity 95%) and FNAC is routinely not required.

Surgical excision is the mainstay of treatment, is curative for kidney-confined cancers and solitary liver or lungs metastasis. For small (<4 cm), polar / exophytic tumors partial nephrectomy or radical nephrectomy is equally beneficial as radical nephrectomy and reduces risk of kidney failure. For tumors extending to IVC or right atrium, removal of tumor thrombus with/without excision of IVC (under cardiopulmonary bypass in atrial tumors) has been advocated, with good long term result. Radiofrequency ablation (RFA) and Cryo-ablation have shown promising results in patients unfit for surgery, for tumors <3 cm and for multiple liver secondary.

Biological / Immuno Therapy: In selected good or intermediate risk patients with advanced/metastatic Clear Cell RCC, Tyrosine Kinase Inhibitors have shown encouraging results in both adjuvant and neoadjuvant settings. The median PFS with Sunitinib and Pazopanib has been up to 11-12 months in 30-40% of patients.

Prognosis: 5 years disease free survival with surgery alone [Open / Laparoscopic, Partial / Radical Nephrectomy] has been >95% for T1 (<7 cm), 85-90% for T2 and 40-70%