



SNS COLLEGE OF ALLIED HEALTH SCIENCES
SNS Kalvi Nagar, Coimbatore - 35
Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT: ALLIED HEALTH SCIENCES
COURSE NAME: SURGERY

Topic: LIVER CARCINOMA



CASE SCENARIO



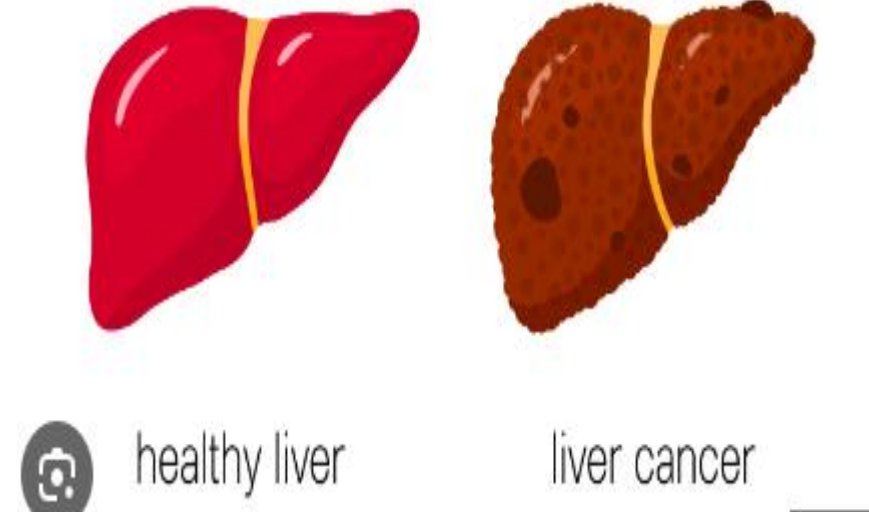
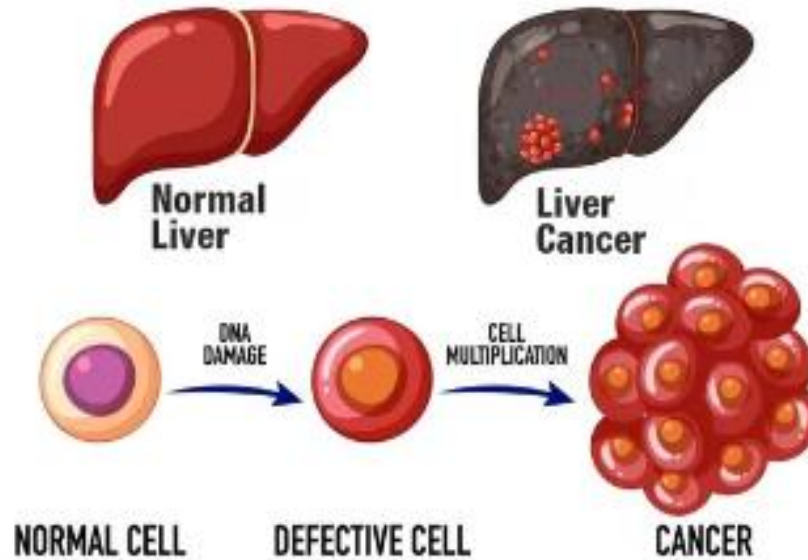
- A 35 year old male presented with a complaints of yellowish discoloration of skin associated with weight loss and loss of appetite for the past 3months and the LFT was elevated .So Now how will you manage this patient?

Introduction

- Liver cancer is cancer that begins in the cells of the liver

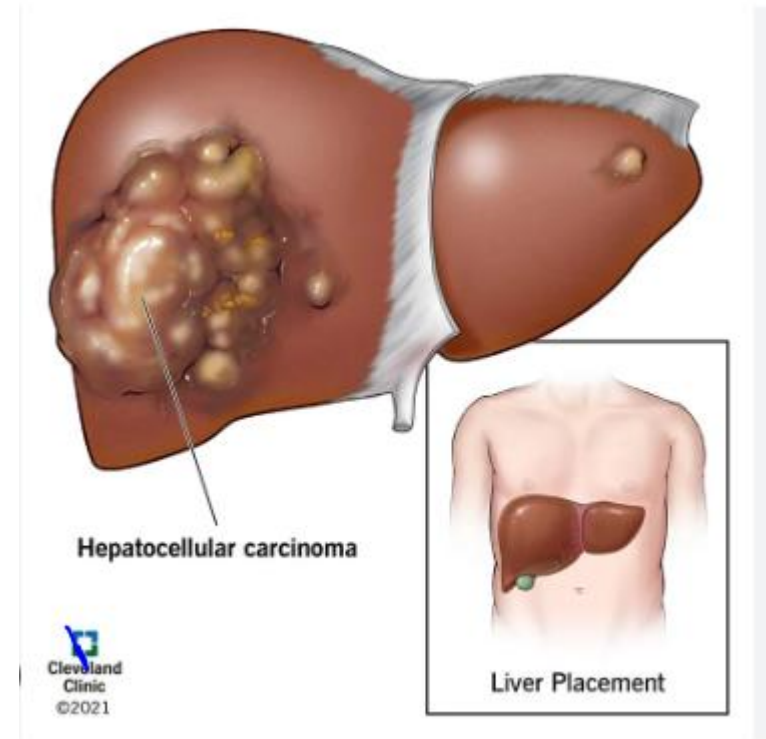
Causes

- Changes in DNA mutations



Types of liver carcinoma

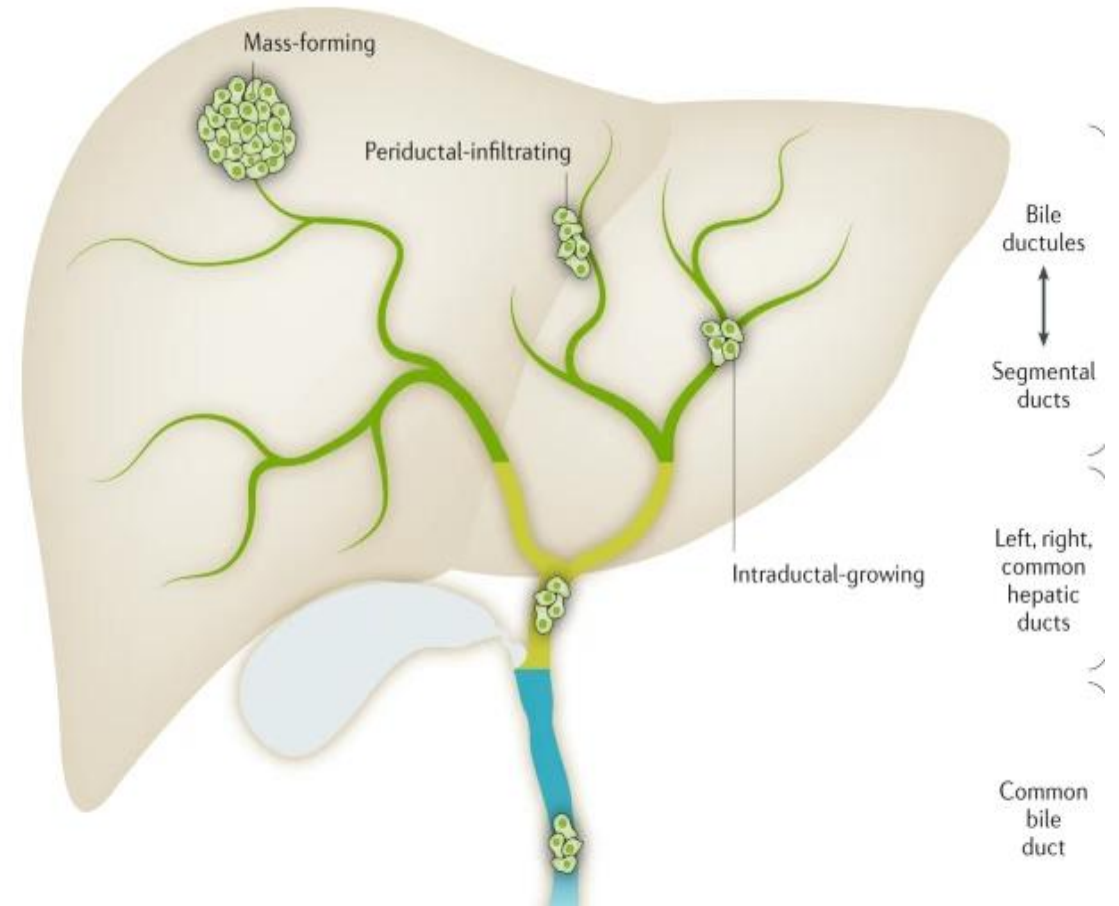
- The most common type of liver cancer is hepatocellular carcinoma, which begins in the main type of liver cell (hepatocyte).
- Other types of liver cancer, such as intrahepatic cholangiocarcinoma and hepatoblastoma, are much less common.
- **Hepatocellular carcinoma**, the formation of cancer cells in the tissues of the liver, is the most common type of liver cancer.
- Fibro lamellar hepatocellular carcinoma (FHCC) is an extremely rare form of this disease. Fibrous bands throughout the cells of the tumor



Cont...

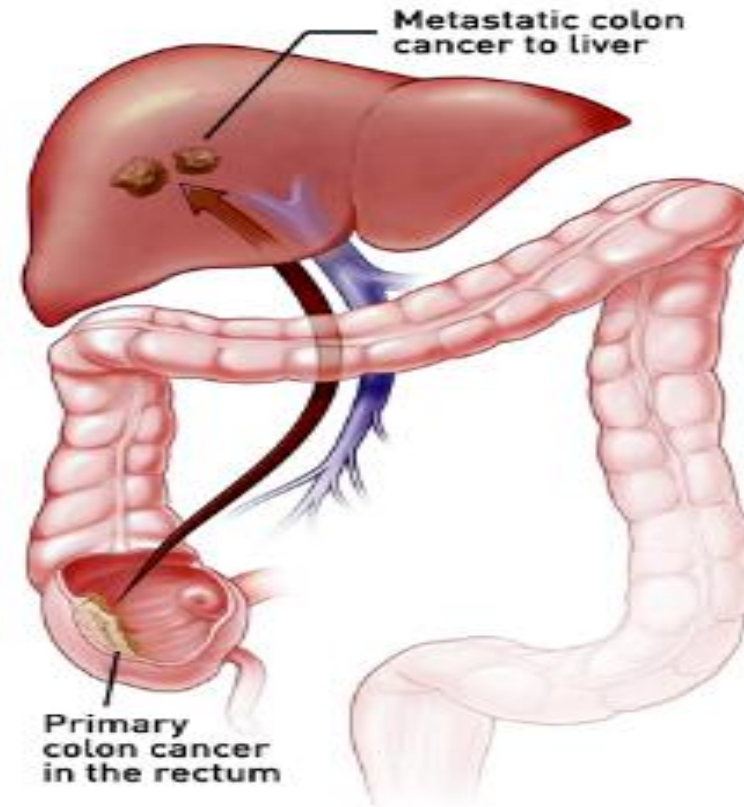
Cholangiocarcinoma/bile duct cancer) (primary

- **Cholangiocarcinoma** is liver cancer that occurs in the ducts that drain bile from the liver to the small intestine.
- It's a rare form of primary liver cancer



Metastatic Liver Cancer(secondary)

- **Metastatic liver cancer** is a secondary cancer. It occurs when cancer cells have spread to the liver from elsewhere in the body.

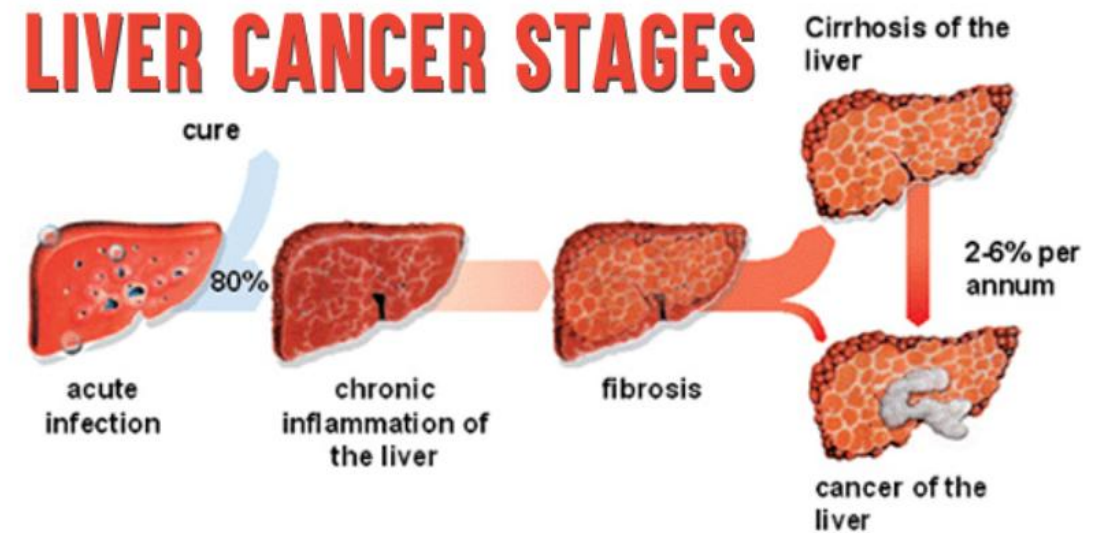




stages of liver carcinoma



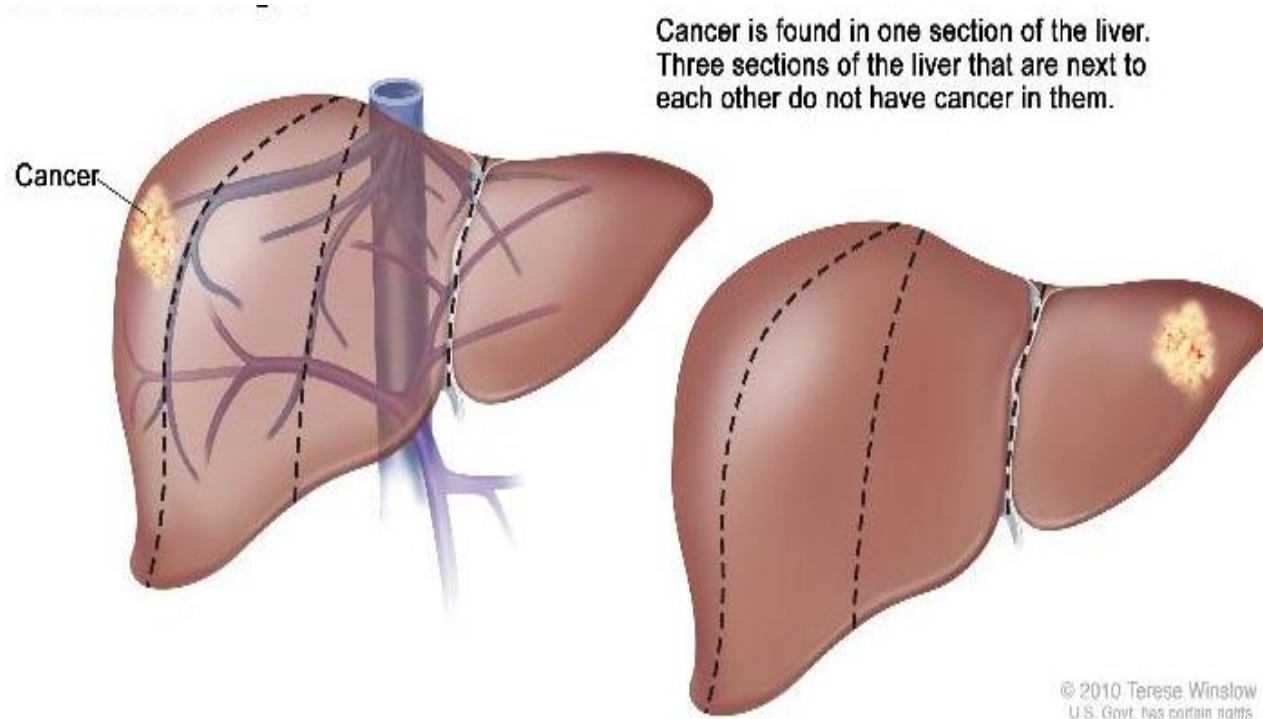
- The stages of liver cancer can be defined on the basis of the size or location of the cancer. The process of defining the extent of the cancer is called staging. Liver cancer has been divided into 4 stages.
- Stage I
- Stage II
- Stage III
- Stage IV



stages of liver carcinoma

Stage I

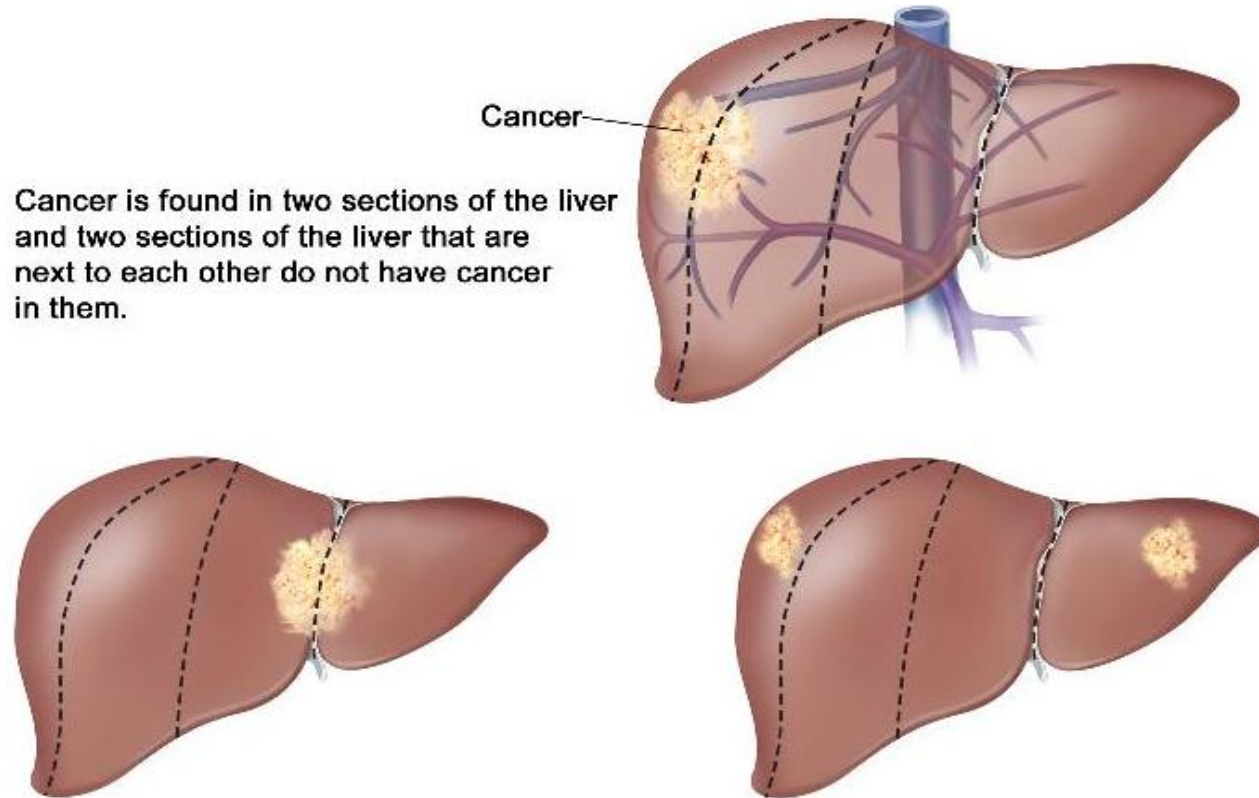
In this stage of liver cancer, the tumour is found in the liver.



stages of liver carcinoma

Stage II

- Tumour is found and has grown to the blood vessels. One or more smaller tumour can be found.



Stages of liver carcinoma

Stage III

- Stage 3 is further categorized into three levels:

Stage III-A

One or more tumours can be found, and at least one tumour would be larger than 5 cm. However, at this level cancer has not yet spread to the lymph nodes or any organ.

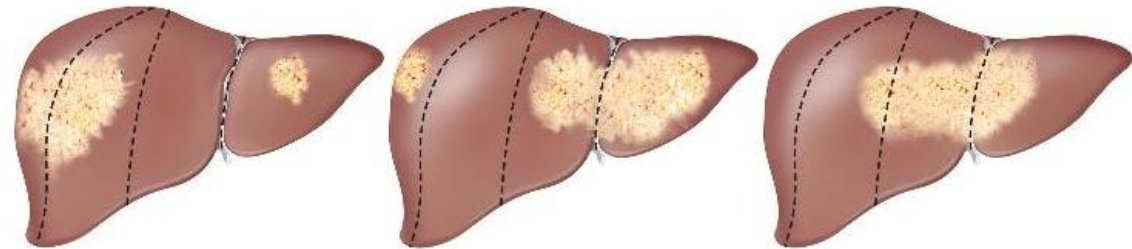
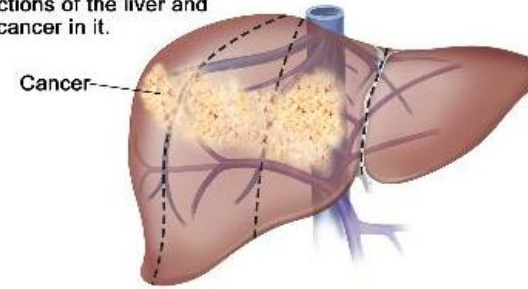
Stage III-B

At this level, cancer gets into the main blood vessels of the liver, however, the cancer still has not grown to the lymph nodes.

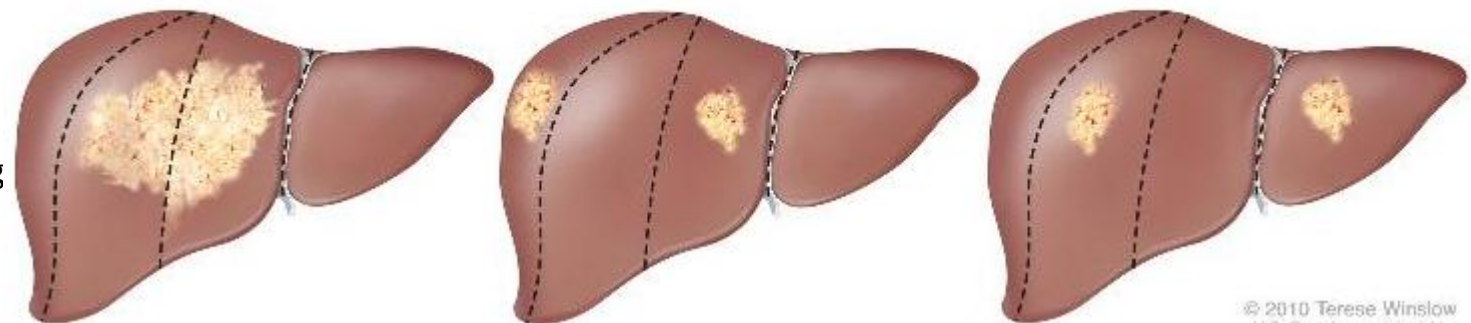
Stage III-C

Liver cancer, at this stage, starts spreading into the other organs nearby the liver or through the lining of inner membrane of abdomen. It still has not spread to the lymph nodes.

Cancer is found in three sections of the liver and one section does not have cancer in it.



Cancer is found in two sections of the liver and two sections that are not next to each other do not have cancer in them.



Stages of liver carcinoma

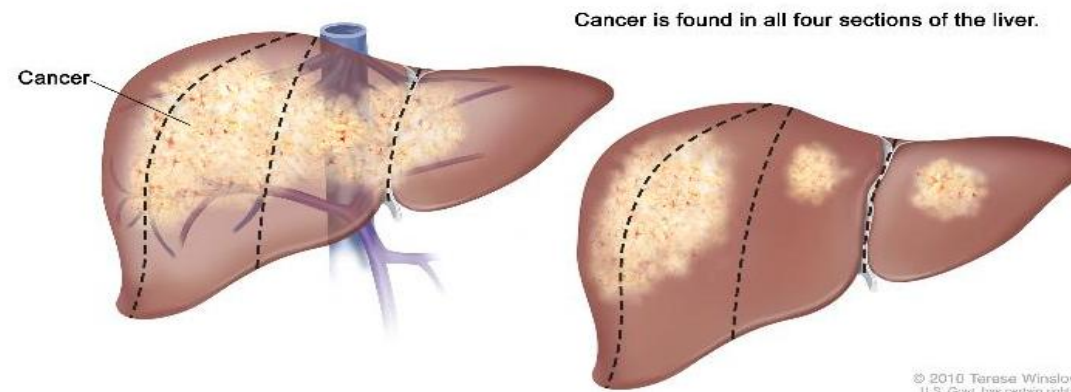
- **Stage IV**

- **Stage IV-A**

- One or more tumours can be found in the liver. It may have spread to the blood vessel or any nearby organ. The cancer, at this stage, has spread to the lymph nodes nearby the liver. The cancer is any size and there may be more than one tumour. It may have grown into blood vessels or the organs around the liver. It has spread to lymph nodes but not to other parts of the body.

- **Stage IV-B**

- More than one large (larger than 5 cm) tumour can be found in the liver, at this stage. It might be possible that the cancer has grown into the blood vessel of the liver or any other organ nearby. It may or may not have spread to the lymph nodes nearby but has grown to the distant organs like lungs or kidneys.



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Symptoms of Liver CA

- Losing weight
- Loss of appetite
- Upper abdominal pain
- Nausea and vomiting
- General weakness and fatigue
- Abdominal swelling
- Yellow discoloration of your skin and the whites of your eyes (jaundice)
- White, chalky stools





Risk factors of Liver CA



- Chronic infection with HBV or HCV
- Cirrhosis.
- Certain inherited liver diseases
- Diabetes.
- Nonalcoholic fatty liver disease
- Exposure to aflatoxins
- Excessive alcohol consumption





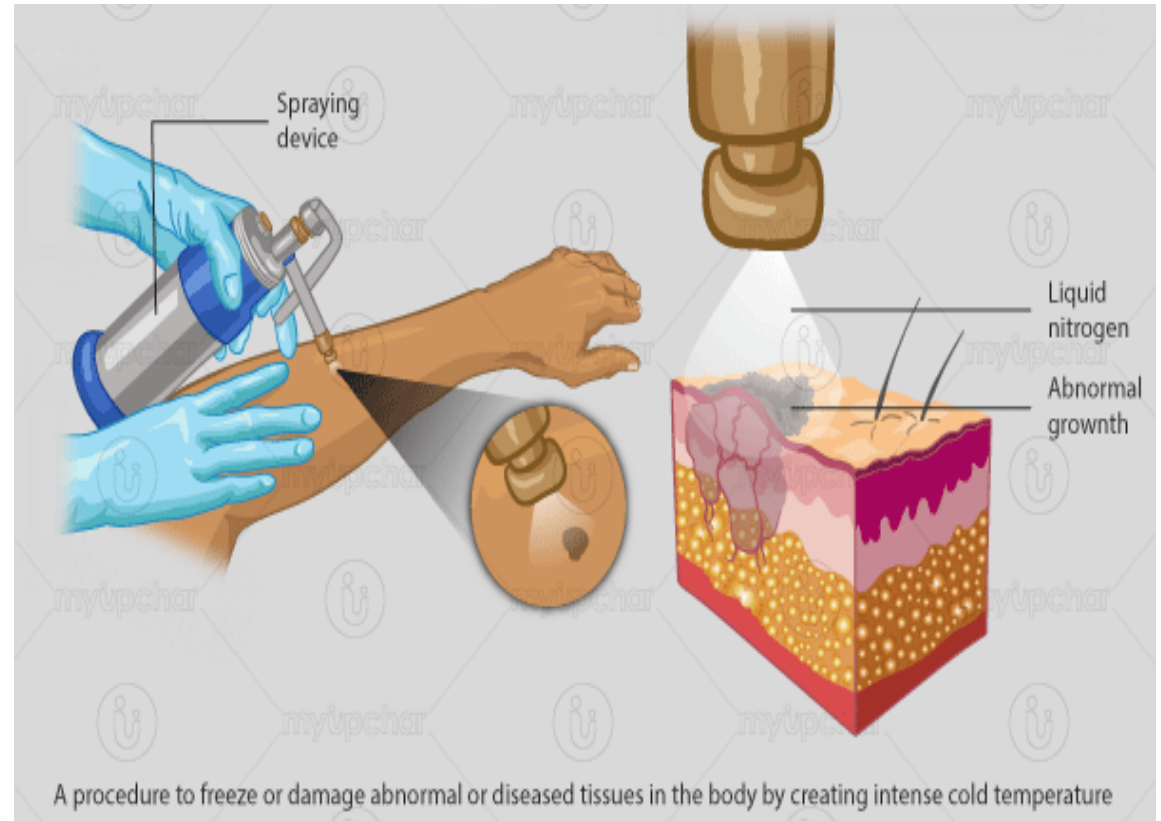
Diagnosis of Liver CA



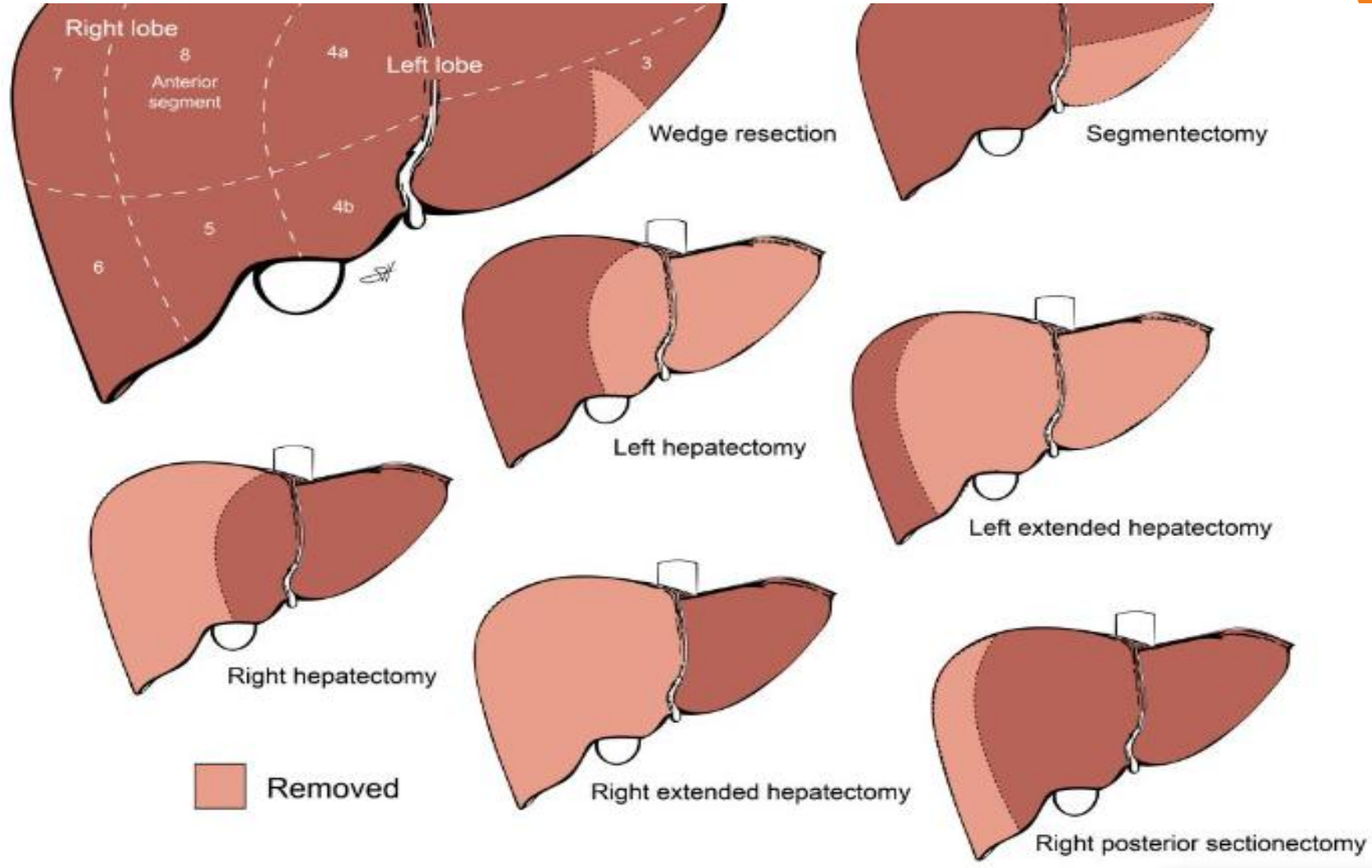
- **History collection:** A history of the patient's health habits and past illnesses and treatments will also be taken.
- **Physical examination:** checking for signs of disease, such as lumps
- **Serum tumor marker test:** increased amounts of a protein called alpha-fetoprotein (AFP) or a hormone called beta-human chorionic gonadotropin (β -hCG). Other cancers and certain noncancerous conditions, including cirrhosis and hepatitis, may also increase AFP levels.
- **Complete blood count (CBC):** A procedure in which a sample of blood is drawn and checked for the following:
 - The number of red blood cells, white blood cells, and platelets.
 - The amount of hemoglobin (the protein that carries oxygen) in the red blood cells.
 - The portion of the blood sample made up of red blood cells.
- **LFT**
- Abdominal X-Ray
- CT & MRI
- **LIVER BIOPSY-** The removal of cells or tissues so they can be viewed under a microscope to check for signs of cancer. The sample may be taken during surgery to remove or view the tumor. A pathologist views the sample under a microscope to determine the type of liver cancer.

Treatment options of CA

- **Surgery:** In surgery, part of the liver with cancer is removed. Surgery is useful when the size of the cancer area is small.
- **Cryosurgery:** A treatment that uses an instrument to freeze and destroy abnormal tissue, such as carcinoma in situ. This type of treatment is also called cryotherapy. The doctor may use ultrasound to guide the instrument.
- **Partial hepatectomy:** Removal of the part of the liver where cancer is found. The part removed may be a wedge of tissue, an entire lobe, or a larger part of the liver, along with a small amount of normal tissue around it.
- **Total hepatectomy :** Removal of the entire liver and replacement with a healthy liver from a donor
- **Resection of metastases:** Surgery to remove cancer that has spread outside of the liver, such as to nearby tissues, the lungs, or the brain.



Surgical procedures of Liver CA





Percutaneous ethanol injection



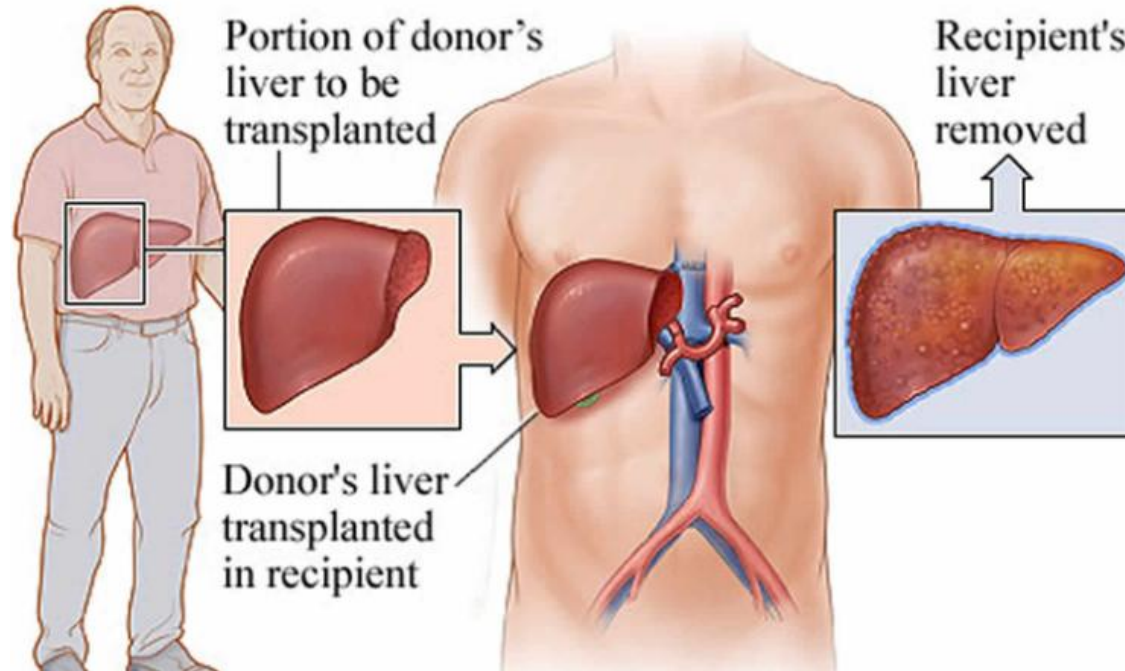
- **Immunotherapy:** Immunotherapy is a safe and popular method of treating liver cancer and other types of cancer through which the immune system of the body is enhanced and strengthened in a natural way. Having no side effects like other cancer treatment methods, this method is becoming very popular all over the world.

Percutaneous ethanol injection

- Percutaneous ethanol injection is a cancer treatment in which a small needle is used to inject ethanol (alcohol) directly into a tumor to kill cancer cells.



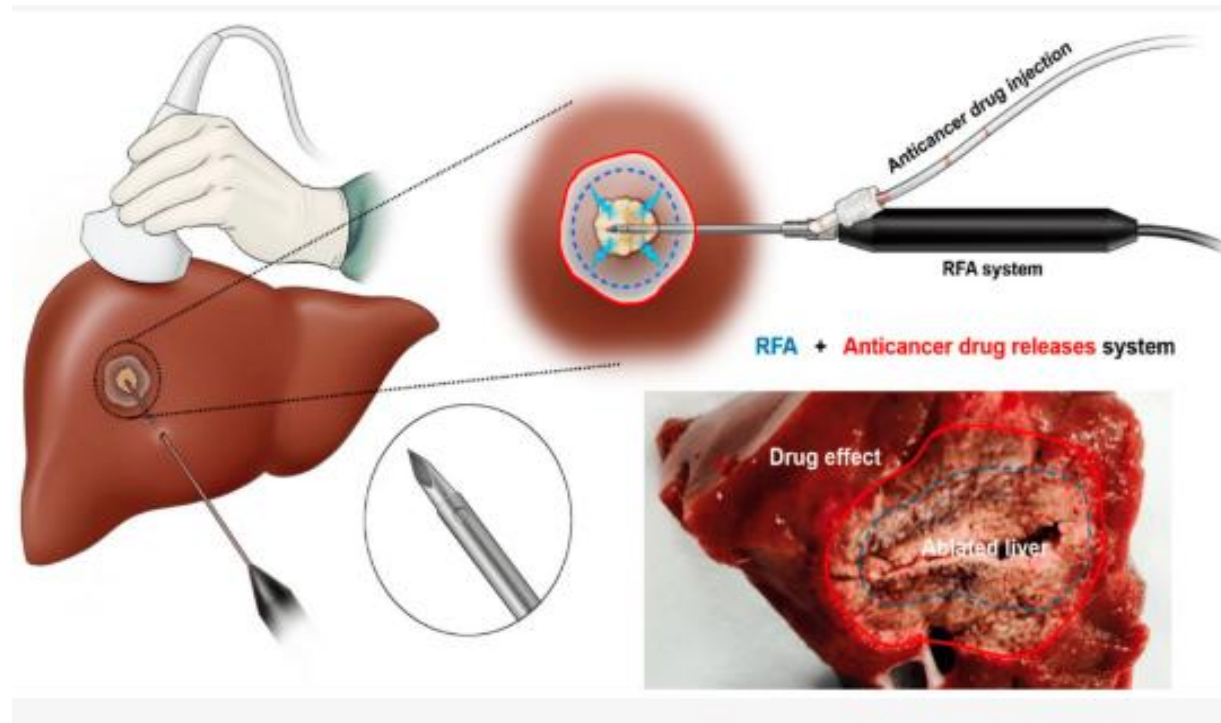
Transplant of the liver



- **Transplant of the liver:** In this procedure, the cancerous liver is replaced with a healthy one from a healthy person. This is done in very rare cases where surgery could not be done.

Ablation therapy

- **Ablation therapy:** This procedure involves destroying cancer cells in the liver without the need of surgery. Heat, laser, or a special alcohol or acid injected into cancer may bring the result



Radiation therapy

- **Radiation therapy** : High-energy rays are directed to kill the cancer cells.
- However, there are risks of complication such as fatigue, vomiting, and nausea

