The liver is the most commonly involved organ in patients with metastatic colorectal cancer. Approximately 20% of the patients have clinically recognizable liver metastases at the time of their primary diagnosis. After resection of a primary colorectal cancer in the absence of apparent metastatic disease, approximately 50% of the patients will subsequently manifest metastatic liver disease.

Primary gastrointestinal malignancies, such as those of the pancreas, stomach, or gallbladder, although frequently metastasizing to the liver, rapidly develop disseminated disease. The best results with aggressive treatment in liver metastasis are seen in colorectal, neuro-endocrine tumors and occasionally in ovarian, breast and renal cell carcinomas.

Evaluation of Patients with Liver Secondaries:

Physical examination: Your surgeon will examine your abdomen to look for any swelling in the abdomen.

Blood investigations: CBC, LFT, RFT, Serum electrolytes, coagulation profile, CA 19-9, CEA, HIV, HCV, and HBV testing,

Radiological imaging: MRI, CT scan, PET CT scan, USG abdomen

Treatment options for liver metastasis:

Surgery for patients colorectal cancer with liver metastasis: In our centre we offer surgery for colorectal cancer and liver metastasis in the same sitting provided both the tumours are resectable.

We offer both open surgery as well as minimally invasive surgery like robotic / laproscopic for patients with colorectal cancer and liver metastasis.

In modern era with advanced technology and advanced surgical skills lot of surgeries are being done via robotics / laproscopy.

Robotic / Laparoscopic surgery has minimal pain, shorter duration of stay and enhanced recovery compared to open surgery. In our centre for select patients we do a laparoscopic resection of colorectal cancer and liver metastasis in a single sitting.

Few patients with colorectal cancer may not have liver metastasis to begin with, but later they may develop liver metastasis even after they have received treatment for the primary disease. To these patients we offer liver resection provided they are candidates for surgical resection

Ablative techniques for liver metastasis: In our centre we offer TACE, Radiofrequency ablation(RFA) and Microwave ablation(MWA) for liver metastasis. These techniques may be combined with primary surgery. For example radical hemicolectomy for colon cancer plus RFA/MWA for liver resection.

Ablative techniques may be combined with liver surgery. For example liver metastasis in both lobes of liver. If liver metastasis are not amenable for resection then these patients are candidates for ablative techniques

Ablation may also reduce the risk of cancer coming back for people with liver metastases that can't be completely removed. It may prolong survival for people with recurrent metastases whom doctors previously treated with surgery and chemotherapy

Chemotherapy: Chemotherapy is used to help stop or slow the growth of cancer and relieve symptoms. Chemotherapy may also be used to shrink the cancer so surgery can be done, or it may be given after surgery to lower the risk of the cancer coming back. Chemotherapy is sometimes used along with other treatments such as targeted therapy.

Systemic chemotherapy is usually given intravenously (through a needle into a vein) or orally (as a pill by mouth).

Hepatic arterial infusion (HAI) is a procedure that delivers chemotherapy directly to liver tumours. It requires oncologists and radiologists. It may be used to treat liver metastases when cancer has only spread to the liver and the tumours can't be removed by surgery.

Targeted therapy: Targeted therapy may be used to control the growth of liver metastases. They are given intravenously or orally. It is most often used along with chemotherapy. However, it is more expensive than conventional chemotherapy.

FAQ'S:

1)What is liver cancer?

Ans: There are two types of liver cancer

A) Primary Liver cancer, which starts in the liver. Ex: HCC, Intrahepatic Cholangiocarcinoma

B) Secondaries in liver, here the cancer spreads to liver from other organs. Ex colon cancer, stomach cancer, pancreatic cancer

Secondaries in liver are the most common cancer of the liver

2) Is cirrhosis of the liver the same thing as liver cancer ?

Ans: Cirrhosis is due to do long term injury to the liver. Most common causes are hepatitis and alcohol abuse. Cirrhosis by itself is not a cancer, but increases the risk of liver cancer.

3)Can liver cancer be prevented?

Ans: Once cirrhosis (or scarring of the liver) has set in, it is generally not reversible. Therefore, the best way to prevent liver cancer is to avoid liver damage by treating any underlying hepatitis and avoiding excess alcohol use.

4)What is the survival rate after the surgery for HCC?

Ans: In general survival rates are higher for people who can have surgery to remove their cancer, regardless of the stage. Overall survival of over 50-70% has been seen in patients with small resectable tumours who do not have cirrhosis or other health issues. For early stage HCC with cirrhosis who have liver transplant , 5 year survival rate is 60-70%

5) What will be the follow up duration after the treatment?

Ans: You have to consult your doctor maybe every 3 to 6 months for the first 2 years, then every 6 to 12 months. Then, the longer you're cancer-free, the less often the visits are needed. After 5 years, they may be done once a year.

6) What are the side effects of chemotherapy and radiotherapy?

Ans: Side effects of chemotherapy includes nausea, vomitting, hair loss, infection and loss of appetite. These symptoms will settle down once the patient has completed chemotherapy

Side effects of radiotherapy include, Skin changes where the radiation is given and fatigue

7) Can liver cancers recur?

Ans: Yes. Unfortunately, even after the best of treatments including surgery, ablation, embolisation, chemotherapy and/or radiation, primary or secondary liver cancers can recur (come back) in future, either in the liver itself, or in other organs like bone, lungs, etc.

8) What are the complications of major liver resection?

Ans: Bile leak, wound infection and intra-abdominal collection. Most of the complications are managed conservatively. In case of complications hospital stay and expense may increase. Morbidity rate of liver resection in our institute is 5%

9) What is the survival rate in colorectal metastasis after surgery?

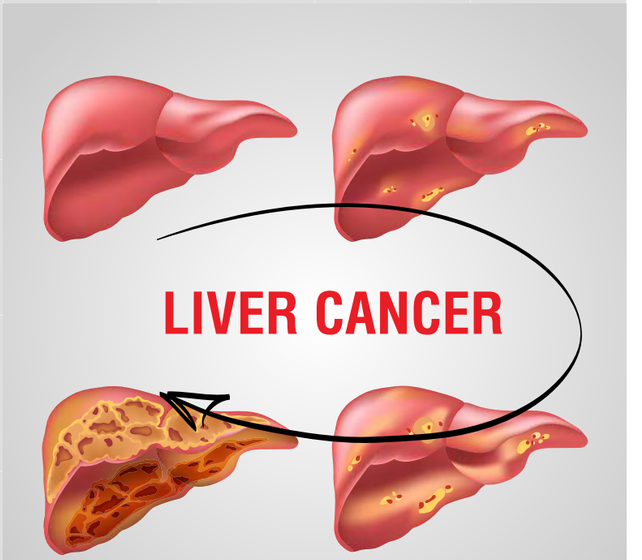
Ans: In a solitary and resectable colorectal liver metastasis the survival rate is 60-70%, in a multiple resectable liver metastasis the survival rate is 25-30%

P. D. HINDUJA HOSPITAL
& MEDICAL RESEARCH CENTRE

Veer Savarkar Marg, Mahim, Mumbai - 400 016 (INDIA)
Tel: 2445 1515 / 2445 2222 / 2444 9199 I Fax: 2444 9151
info@hindujahospital.com www.hindujahospital.com

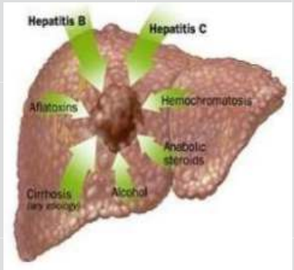
P. D. HINDUJA HOSPITAL
& MEDICAL RESEARCH CENTRE

A Patient's Guide To



LIVER CANCER

Liver cancer:



Liver cancer can be primary or secondary. Cancers which arise from the liver are called primary liver cancer. Cancers which arise in the other parts of the body and spread to liver are called secondary liver cancer or metastasis. Primary liver cancer includes

Risk Factors for HCC:

A) Hepatocellular carcinoma(HCC)

B) Cholangiocarcinoma (primarily bile duct cancer)

Primary liver cancer (hepatocellular carcinoma) tends to occur in livers damaged by birth defects, alcohol abuse, or chronic infection with diseases such as hepatitis B and C, hemochromatosis (a hereditary disease associated with too much iron in the liver), fatty liver or fibrosis (NASH) and cirrhosis. More than half of all people diagnosed with primary liver cancer have underlying cirrhosis .

Various cancer-causing substances are associated with primary liver cancer, including certain herbicides and chemicals such as vinyl chloride and arsenic. Smoking, especially if you abuse alcohol as well, also increases risk.

Aflatoxins, cancer-causing substances made by a type of plant mold, have also been implicated. Aflatoxins can contaminate wheat, peanuts, rice, corn, and soybeans.

The male:female ratio for HCC in India is 4:1. The age of presentation varies from 40 to 70 years.

CHOLANGIOCARCINOMA is the cancer of bile ducts. Bile duct connects the liver to gall bladder and intestine. There are 3 types of cholangiocarcinoma

A) Intrahepatic cholangiocarcinoma: occurs in parts of bile duct within the liver. Intra hepatic cholangiocarcinomas are the second most common primary liver malignancy after HCC

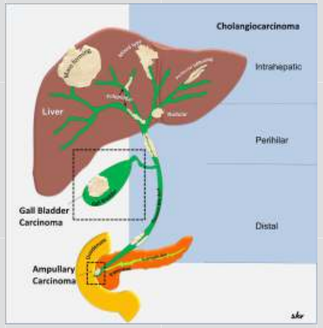
B) Hilar cholangiocarcinoma: occurs in bile duct just outside the liver

C) Distal cholangiocarcinoma: occurs in the portion of bile duct where it enters the duodenum

Liver Metastasis:

Secondary liver cancer or metastasis liver is the most common cancerous condition of liver. It depends on the location of the original cancer. Primary cancers that are most likely to spread to the liver are cancers of the:

- colon
- rectum
- stomach
- esophagus
- lung
- pancreas



Even if the primary cancer is removed, liver metastasis can still occur years later. If you've had cancer, it's important to learn the signs of liver metastasis and get regular checkups.

Liver cancer signs and symptoms may include:

- Jaundice - yellowish discolouration of skin and eyes
- Abdominal pain - often on the right upper abdomen
- Loss of weight and appetite
- Hepatomegaly - enlarged liver, the abdomen may appear swollen
- Fatigue
- Nausea and vomitting
- Back pain
- General itching
- Fever.

Diagnosing a HCC:

a) Physical examination: Your doctor will examine your abdomen to look for any in the upper abdomen. He also examine your eyes and skin to look for the evidence of jaundice

b) Blood tests: complete blood count, LFT, RFT, Serum electrolytes, coagulation profile, HIV, HCV &HBV testing, AFP (Tumour marker)

c) Radiological imaging: USG Abdomen, Triple phase CT Scan of the abdomen, MRI Abdomen, CT Angiography

d) Biopsy: Liver biopsy offers a safe and effective means to confirm suspicious lesions for HCC. Cytologic and histologic samples can be obtained by percutaneous fine-needle aspiration (FNA) and needle core biopsy, respectively, under US or CT guidance

Most cases however, do not need a biopsy and are recommended only when AFP or imaging is not clearly diagnosed.

Treatment of HCC:

There are various modalities of treatment for HCC. Treatment options include surgical resection of diseased liver, Liver transplantation, Locoregional ablative techniques like TACE, RFA,MWA and chemotherapy. Treatment options depend on the stage of the disease, general condition of the patient and associated comorbidities. Surgery or liver transplant (in select cases) are the only potentially curative options in HCC

Loco regional ablative techniques are considered in patients who are not candidates for surgery(patients with portal hypertension, poor liver functions, functional liver remnant (FLR) less than 40%, Poor general condition, metastasis)

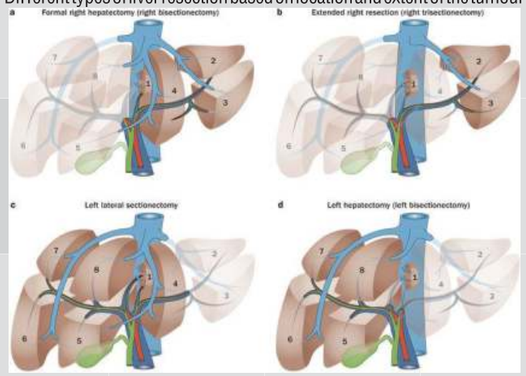
Few patients may require HVPG measurement as a part of surgical assessment. Portal vein embolisation will be considered in patients with FLR<40%, cirrhosis but otherwise fit for surgery

HVPG, Portal vein embolisation and Loco regional ablative techniques are done by a interventional radiologist in collaboration with the liver surgeon

In a borderline resectable HCC your surgeon might consider ablative techniques along with surgery

In advanced metastatic and unresectable disease patients will be referred to medical oncologist for chemotherapy

Different types of liver resection based on location and extent of the tumour



Diagnosing Intrahepatic Cholangiocarcinoma:

a) Physical examination: Your doctor will examine your abdomen to look for any pain or swelling in the upper abdomen. He also examine your eyes and skin to look for the evidence of jaundice

b) Blood tests: complete blood count, LFT, RFT, Serum electrolytes, coagulation profile, HIV, HCV &HBV testing, CEA and CA19-9(Tumour marker)

c) Radiological imaging: USG Abdomen, Triple phase CT Scan of the abdomen, MRCP, PET CT Scan

d) Biopsy: if biopsy is required then you might be referred to a radiologist to get a CT/USG guided biopsy done

Patients with features of obstructive jaundice will require preoperative biliary decompression in the form of PTBD. PTBD will be considered in patients with unresectable disease to relieve them of symptoms of obstructive jaundice

Treatment of Intrahepatic Cholangiocarcinoma:

Surgery: If the tumour can be resected then the patient will be offered liver resection with or without bile duct resection depending on the location of the tumour in the bile duct. Based on the histopathology report patient may require chemotherapy or radiotherapy after surgery.

Chemotherapy/radiotherapy: unresectable intrahepatic cholangiocarcinoma with widespread disease in an advanced stage your will be referred to a medical oncologist for chemotherapy or a radiation oncologist for radiotherapy

Ablative techniques: Unresectable intrahepatic cholangiocarcinoma, but not spread to other regions can be treated with TACE or TARE

Palliative care: patients who are in the terminal stage of illness are offered palliative care. Aim of palliative care would be symptomatic relief. Patient may be referred pain management team for pain relief. If patient is having obstructive jaundice features then he/she will be referred to interventional radiologist for PTBD

Management of Secondaries in Liver:

In the surgical oncology department of our centre we offer treatment for liver secondaries- most common being colorectal and neuro-endocrine metastasis.