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Hope for liver cancer patients

THE earliest recorded case of liver cancer was noted way back in 1849. By the end of the century it was clear through studies originating from Africa and Asia that primary cancer of the liver was a major cause of mortality in the population in these areas. Survival time among patients with clinically detectable hepato-cellular carcinoma is extremely short.

The peak age incidence of liver cancer in Asia is between 45 and 55 years. However in the U.S. the peak is 10 years later. This difference in age distribution may reflect in part the difference in age of exposure to a major risk factor, hepatitis B-virus.

The risk factors in cancer of the liver are Hepatitis B-Virus, Hepatitis C-Virus, alcohol and cirrhosis, aflatoxsis, vinyl chloride, steroid hormones, and iron and arsenicals.

The relationship between chronic hepatitis B-virus infection and liver cancer has been substantiated with 20 years of investigations. The weight of evidence supports the position of hepatitis B-virus as the major risk factor for hepato-cellular carcinoma. Hepatitis B-virus infection is the causative agent for 75 to 90 per cent of hepato-cellular carcinoma on a world wide basis.

In high incidence areas like India, where the predominant risk factor is Hepatitis B-virus, immunisation is the most effective way to preventing hepato-cellular carcinoma. A safe effective vaccine is available since 1982. It is important to vaccinate in the perinatal period because there is 90 per cent chance of developing a chronic infection in the first year of life. Secondary prevention dependson early detection and resection of tumours.

Alfa-feto protein is an antigen synthesised by 40 to 75 per cent of liver tumours but not by the normal adult liver. It is therefore possible to monitor high risk population for Alfa-feto protein elevation to detect tumours before they become symptomatic.

Like most cancers which develop within the body hepato-cellular carcinoma is usually at an advanced stage at the time of presentation and the history obtained from the patient is often surprisingly short. The most common and often the first complaint is pain in the right upper abdomen which may be accompanied by abdominal distention. Loss of appetite with weight loss is present in about 30 per cent of patients. The liver is enlarged in over 90 per cent of patients. Later as the disease progresses jaundice and features of liver failure develop.

Hepato-cellular carcinoma is a highly lethal disease in untreated patients. Prompt surgical resection of an isolated hepatoma is at present the treatment of choice if the tumour is small. However the resection rate is low.

In patients with cirrhosis and portal hypertension operative mortality is as high as 30 per cent compared with only 10 per cent when the remaining liver is normal. In general only patients with no evidence of jaundice, with no or minimal evidence of liver failure should be consideered for resection.

The area of the resected tumour is directly related to survival with studies showing no survivors beyond three years and the only 50 per cent survivors at one year when the tumour is large. Thus it is clear that a large percentage of patients with hepato-cellular carcinoma are not really cases for surgery at the time of detection. This group till recently had no choice but intravenous chemotherapy with its associated complication and extremely poor results.

Intra-arterial chemo embolisation has been a major advance in the management of hepato cellular carcinoma.

Hepato-cellular carcinoma derives its blood supply primarily from the artery which supplies the liver while the normal tissue is sustained by the portal vein which brings nutrition from the intestines.

Arterial infusion has the distinct advantage of increasing local drug delivery while lowering toxicity to other parts of the body. Intra-arterial chemotherapy is more effective when combined with embolisation.

Transcatheter intra-arterial delivery of Lipidiol/ Ethiodol (ethyl ester of poppy seed oil containing iodine) with a chemo therapeutic drug and embolic agent superselectively into the blood vessels supplying the tumour has been successful in the management of inoperable hepato-cellular carcinoma especially in patients with cirrhosis.

The advantage of a solid embolic agent through the hepatic artery is prolongation of occlusion and therefore ischemia of the neoplasm.

An anti-cancer drug (5FU, 5FUDR, Adramycin, Mitomycin and Cisplatin) effective against liver cancer enhances the potency of the mixture. The slow flow created by embolisation increases the contact time between the drug and the tumour cells.

Trans catheter arterial chemo embolisation is today considered a good alternative to hepatic resection for the treatment of hepatoma and is considered to be the main treatment for unresectable hepatoma associated with severe liver cirrhosis.

The technique of chemoembolisation can be extended to secondary deposits in the liver where results have been encouraging.

A distinct advantage over IV chemotherapy is the low side effects commonly associated with it. This is because of the significant reduction in dose and targetted placing of the anti-cancer drug to the tumour site alone.

Conclusion with extremely poor prognosis in patients with non-operable cancer of the liver and secondaries, intra-arterial chemoembolisation could to a great extent improve the quality of the life and increase their longevity. It also holds promise of cure in a select group of patients where the tumour size is small.

Chemoembolisation for treating liver cancer is now available in India. ■

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