The 9th Conference on Health Care of the Chinese in North America

Pathogenesis and Current Medical Management of Hepatocellular Carcinoma

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Abstract

Hepatocellular Carcinoma is a common malignancy worldwide. In 1985, over 300,000 cases were reported in the world, accounting for over 4% of all cancers. This cancer is more common in men and it is estimated that 70% of the cases are from Asia. Reports in ethnic Chinese population from many areas of the world, including Hong Kong, Taiwan and China have shown that over 80% of all cases of hepatocellular carcinoma are HBsAG positive. In addition, a history of heavy alcohol intake was noted in our Caucasian patients. An equal percentage of patients were found to be positive for the antibodies to hepatitis C virus; more patients who were anti HCV positive had a history of transfusion; and the chronic hepatitis C patients were approximately 10 years older than the liver cancer patients who were hepatitis HBsAG positive. Recent studies have shown that in countries with a low incidence of HBsAG positive hepatocellular carcinoma, there was an increased frequency of anti-HCV positivity in the patients who developed primary liver cancer. Other causes for hepatocellular carcinoma are patients with hemochromatosis and those with alcoholic liver disease. Smoking and use of oral contraceptives may also increase the risk for development of liver cancer.

The common symptoms and signs of hepatocellular carcinoma are right upper quadrant pain, weight loss, ascites, and the appearance of an abdominal mass. Approximately 10 % of patients may present with fever. Less commonly, patients may present with hemoperitoneurn. The diagnosis of hepatocellular carcinoma relies on testing for serum alpha-fetoprotein which is elevated in approximately 60-70% of patients. Screening for liver cancer should be performed with alpha- fetoprotein and abdominal ultrasound examination on a regular basis. If indicated, follow up tests with CT scans, MRI, hepatic angiogram or tography may be required.

Factors which influence decisions for treatment of hepatocellular carcinoma include age, the number, location and size of the cancer lesions, and the presence of cirrhosis. Treatment of hepatocellular carcinoma with systemic chemotherapy has shown limited success. Intraarterial embolization and chemotherapy have prolonged survival. More recently, alcohol injection has shown a promise. Cryosurgery is another modality of treatment for hepatocellular carcinoma. Liver resection remains the treatment of choice for lesions confined to one lobe of the liver. However if cirrhosis is present, the risks from surgery are increased. In addition, recurrences in the other lobe of the liver are frequent. Orthotopic liver transplantation is another choice for treatment. However, the recurrence rate of cancer in the transplanted liver are high. In addition, in patients who have chronic hepatitis B or C infection, the re-infection rate of the transplanted liver with these viral agents is also high. More treatment modalities are needed for treatment of this malignancy.