Hepatocellular Carcinoma Screening

Patients with chronic viral hepatitis and other chronic liver diseases of different etiologies are at a risk of developing hepatocellular carcinoma (HCC). HCC has a high morbidity and mortality rate, and is one of the leading cause of cancer-related mortality worldwide.[1] Various treatments such as surgical resection, radiofrequency ablation, percutaneous ethanol injection, and liver transplantation offer encouraging outcomes in patients with limited disease as they provide acceptable 5 years survival rate.[2] When the patients with HCC presents with clinical symptoms, the tumor is typically very advanced and the patient has very few therapeutic options. Thus, early detection of HCC is very important. This can be achieved only when proper screening is done in those cases who are at risk.

The American Association for the Study of Liver Diseases Practice Guideline on HCC have recommended repeated screening of the patients on risk to develope HCC in an effort to detect HCC at an early stage to provide an effective therapy.[3] Similar guideline is also followed by the European Association for the Study of the Liver.[4] Both the association recommended surveillance with ultrasound (US) every 6 to 12 months along with other investigations. Ethical considerations make it unlikely that a randomized controlled trial of surveillance versus no surveillance for HCC. However, cohort studies suggest a benefit for HCC surveillance in at risk patient population. In a study by Davila et al use of AFP and US testing every 6 months in patients of hepatitis B was associated with a 37% reduction in mortality over 5 years compared with no screening. It was true even though adherence to the screening regimen was as low as 58%. This study supports the usefulness of surveillance for HCC. The mean doubling time of HCC on US is 180 days and hence 6 months is a reasonable screening time interval.[5] When any nodules are seen in a cirrhotic liver they are subjected to further investigations. Histological diagnosis remains the gold standard for the diagnosis of HCC. However needle track metastasis is one of the complications and the risk of needle track recurrence of liver tumours should not be regarded as insignificant.6,7 Incidence of bleeding is also high due to hepatic coagulopathy in cirrhotic patients. The European Association for the Study of the Liver has proposed a set of non-invasive criteria for HCC in cirrhotic patients. If there is arterial hypervascularization (regardless of AFP levels) in any two of the three imaging modalities (US, CT and magnetic resonance imaging) the diagnosis is established. Even if a single modality shows a hypervascular lesion when the AFP levels are more than 400 ng/ml the diagnosis can be confirmed.[4] Hypervascularity of the nodules can be confirmed by color Doppler US and contrast enhanced US. In limited disease this less invasive, reproducible modality is highly useful specially when CT and MRI are not readily available and are expensive.

In this issue of JNMA there is a review article by Maruyama et al on use of contrast enhanced US. The article provides a detailed discussion on an emerging subject of contrast enhanced ultrasonography on use of diagnosis as well as its therapeutic use. Introduction in Nepal is still awaited and we hope that it would soon be available in our country.

Exact incidence of HCC in Nepal is not known. However, most of the patients present when they are already symptomatic and are beyond the scope of effective treatment. If screening mechanism can be effectively applied many lives can be saved. The peak mean age of onset of HCC is continually increasing worldwide reaching above 70 years in Japan.[9] In the contrary mean age of the patients presenting with HCC is less than 50 years in Nepal (Unpublished report from Liver Unit, Bir hospital). The article by Jingling et al in this issue of JNMA compares clinicopathological characteristics in young and elderly HCC.[10] The article has not mentioned about clinical status and management prior to inclusion into the study. It must be due to proper screening mechanism that must

have lead to the diagnosis of HCC. Now its also time for us to act. We need to have a screening program, at least by US so that many lives can be saved. The prevalence of HCC and the etiologies of cirrhosis, which is the fertile ground for development of HCC, differ according to regions resulting in recommendations that should be adapted to each country. We can simply adhere to the US screening of the cirrhotic patient evry six month for early detection of HCC.

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