A. Diagnosis
INTRODUCTION

Sequelae of chronic hepatitis B virus (HBV) and hepatitis C virus (HCV) infection, including hepatocellular carcinoma (HCC), liver cirrhosis (LC) and their complications, are health burdens of the world. Improving treatment results for early stage HCC makes the screening meaningful. Two-staged HCC screening identifying high risk subjects in the first stage and screening for HCC by ultrasonography (US) in the second stage is a practical and workable concept. The benefit of US screening on high risk groups has been well documented, but “who should be included in the US screening” depends on cost-benefits and considerations of feasibility.

Epidemiology of Hepatocellular Carcinoma and Liver Cirrhosis

There are different etiologies of HCC around the world, such as chronic HBV and HCV infections, which lead to advanced liver disease and eventual development of LC and HCC. These two viral infections are the major risk factors for HCC.

HBV-related HCC is a common cause of HCC in Asia and sub-Saharan Africa. The major transmission of HBV infection in these countries is vertical transmission from carrier mother to newborn at the time of birth. The majority of infected newborns will develop chronic and subclinical hepatitis, subsequently leading to LC and HCC. This transmission route is rare in Western countries, where sexual transmission or intravenous drugs use are the major causes of HBV infections during adolescences, and which mean infected individuals are at lower risk of developing into chronic infection. Consequently, HBV-related HCC in Western countries is relatively low.

On the other hand, HCV infections in adults have high rates (~75%) of chronic hepatitis and liver disease. Approximately 25% of patients with chronic HCV infection progress to LC within 20 years (Fattovich et al., 1997). Among those patients with cirrhosis, 1–4% develop HCC each year. The burden of HBV-related HCC will decrease in the future because HBV mass vaccination programs will consequently reduce the incidence of HCC.