Introduction

Hepatitis C virus (HCV) has a worldwide prevalence. Its infection frequently causes chronic liver disease leading to liver cirrhosis, and increases the risk of hepatocellular carcinoma (HCC). Interferon (IFN)-based therapy has been used in patients with chronic hepatitis C (CHC), as it has been shown not only to eradicate HCV but also to reduce serum alanine aminotransferase (ALT) levels. Moreover, several studies have indicated that IFN therapy reduces the rate of development of HCC and results in improved survival in patients with CHC. Nevertheless, there have been many reports of the detection of HCC in some patients with CHC even after successful eradication of HCV by IFN therapy. Although several factors, such as older age, male gender, and severe fibrosis, have been implicated, the factors associated with the development of HCC after IFN therapy is still inconclusive. Alpha-fetoprotein (AFP), a 70-kDa single-stranded glycoprotein, has been widely used as a diagnostic marker for HCC **(*Chen et al., 2008*)**.

Although elevated serum AFP level in patients with CHC has been shown to be a significant independent predictor of the development of HCC, AFP levels are sometimes elevated in patients with chronic hepatitis and cirrhosis who have no evidence of HCC. Especially among patients with advanced CHC, serum AFP values are frequently elevated (e.g at a rate of 47% in patients with cirrhosis), even in the absence of HCC. Therefore, the usefulness of AFP as a screening marker of HCC has been limited by its impaired specificity ***(Yasushi Tamura et al., 2009)***.