

S19. Prevention of Viral-Induced Hepatomas: Antioxidant Trials in Japan

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Viral-induced hepatoma is one of the urgent problems over the world including Japan. Chronic hepatitis virus infection causes prolonged inflammation in liver accompanying with over production of reactive oxygen species (ROS), resulted in the reduction of antioxidant level. In fact, the level of carotenoids, such as lycopene, alpha- and beta- carotene, is significantly lower in patients of viral-induced hepatoma, than that in healthy individuals. Thus, we evaluated the effect of multicarotenoids-treatment on the hepatoma development. Patients of chronic viral hepatitis with cirrhosis (more than 90% of these individuals were hepatitis C virus-infected patients) were randomly divided into two groups. Patients in Group 1 were administrated with carotenoids mixture, in addition to conventional symptomatic treatment. Daily dose of carotenoids was 20 mg in total. Compo-

sition of carotenoids mixture was as follows; lycopene 10 mg, beta-carotene 6 mg, alpha-carotene 3 mg, and other minor portion of carotenoids, such as phytoene and phytofluene, 1 mg. These carotenoids were packed into capsules with 50 mg alpha- tocopherol. Patients in Group 2 were treated with symptomatic treatment alone. These groups were followed up for 2–5 years (3.4 years in average). Cumulative incidence of hepatocellular carcinoma development was analyzed by Kaplan-Meier method. In the 4th annual analysis, significant reduction of hepatocellular carcinoma development was observed in Group 1 (carotenoids-treated group); i.e., cumulative incidence of hepatocellular carcinoma in Group 1 was 12.3%, while that in Group 2 (the control group) was 34.6% ($p < 0.02$). Thus, multicarotenoids seem to be promising for clinical use.