# シンポジウム1

## 「医療現場での補完医療の現状」

### 4. CYANOCOBALAMIN ABSORPTION FAILURE IN ALCOHOLIC LIVER DISEASE CAN BE PREVENTED BY A NOVEL NATURAL FERMENTED PAPAYA ANTIOXIDANT PREPARATION

**Francesco Marotta** (HepatoGastroenterology Dept. Medical Science Div., S. Giuseppe Hospital, Milano, Italy)

Alcohol administration in healthy volunteers decreases vitamin B12 absorption and some reports suggest that chronic alcoholics may have a reduced serum level of this vitamin. However, to date there is only one in vitro study investigating on the mechanisms of such abnormality which suggested a role of ethanol-generated free radicals. In these last years there has been an increasing basic science- and clinical-supported evidence that a novel fermented papaya antioxidant preparation (FPAP, Osato Res. Foundation, Gifu, Japan) exerts relevant antioxidative, nitric oxide-regulating and immunodulating properties. Thus, the aim of this study was to test this product on vitamin B12 absorption in a population of alcoholic chronic liver disease (CLD) patients. Thirty patients with alcoholic CLD (>150g ethanol/day for at least 5 years) and 24 teetotaller patients underwent baseline chemistry and Dual Isotope Schilling test (DIST). During endoscopy, biopsy samples were taken from gastric antrum and body to assay: routine histology, malonyldialdehyde (MDA), vitamin E and glutathione concentration and vitamin B12-Intrinsic Factor binding. Examinations were repeated after one week supplementation with FPAP 9g/day, which is biofermented by yeast from medicinal plants (carica papaya, pennisetum purpureum, sechium edule). Plasma MDA level and lipid hydroperoxides concentration as well as MDA and xanthine oxidase concentration in the gastric mucosa in CLD than in healthy subjects ($p<0.01$) and despite unchanged alcohol consumption, showed to significantly decrease after FPAP supplementation ($p<0.05$). Gastric mucosal glutathione was markedly depleted in CLD patients and partly recovered after antioxidant therapy ($p<0.05$ vs baseline). Although the CLD patients showed normal Intrinsic Factor secretion in the gastric juice, they exhibited a markedly impaired Intrinsic Factor-cobalamin binding on the ex vivo study ($p<0.001$). Moreover, nearly 23% of them had an abnormal DIST. Both these failures reverted to normal after FPAP treatment ($p<0.01$ vs baseline). It can be postulated that the antioxidative action played by FPAP possibly due to its availability of substrates for glutathione synthesis as well as its effect on local oxidative burst from neutrophils, is able to recover a normal cobalamin absorption.