Clinical value of the measurement of IFN-α and -γ producing capacity using whole blood method.

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IFN-α (induced by Sendai virus) and -γ (induced by PHA) producing capacities of healthy persons and patients with various diseases were measured using the whole blood method. IFN-α producing capacities of healthy men and women from 20-79 years of age were 8633±3979 and 6885 ±3811 IU/ml, respectively. Although the cause of disease states were variable, IFN-α producing capacities of patients with lung cancer (4321± 3876), myelodys-plastic syndromes (913±560), pulmonary tuberculosis (3090 ±2765) , non-insulin dependent diabetes melitus (male: 6740±4901, female: 4885±3824), hepatitis C (CIH: 8045±5492 (male), 6506±5621 (female), CAH: 4880±2772, LC: 5100±3525, HCC: 4191±2639) and asmptomatic HIV-1carrier (3603±2582 IU/ml) were all impaired. IFN-α producing capacities of patients with lung cancer or hepatitis C decreased gradually as the progression of the disease, while those of tuberculosis patients significantly increased after medication compared with values of just before hospitalization. Our research data on various diseases has demonstrated that IFN-α values are related to the subjects susceptibility to infection. Besides, measurement of IFN-α producing capacity is a unique in the sense that it simulates *in vivo*-virus response *in vitro* by using the whole blood method.

The IFN-γ producing capacities of healthy men and women from 20-79 years of age were 37±21 and 34±20 IU/ml, respectively. IFN-γ producing capacities decreased in patients during the terminal stages of lung cancer, while it increased in all stages of hepatitis C patients. As there are no correlation between PHA-induced lymphocyte proliferative responses which is attributed to whole T cell function and IFN-γ production which refers to Th 1 function, it is thought that both response provides different aspects of immune functions.

The determination of IFN-α and -γ producing capacity furnishes different aspects of immune functions which can't be provided by conventional methods. Periodical measurement of IFN producing capacities might be helpful in determining patients immune status and would enable us to give suitable therapy at the appropriate time. We evaluated the effects of oral administration of dietary supplements such as Labre and Bionaomalizer on IFN producing capacity of human individuals by using this method.