Serum Levels of IL-6 and IL-10 in Patients with Cervical Cancer

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Background Some immunomodulatory functions of interleukins may be involved in the response of host against HPV infection and viral persistence. Our aim was to determine the serum levels of IL-6 and IL-10 in patients with cervical cancer comparing with control group.

Methods Three hundred and fifteen patients were enrolled in this study. One hundred and seventy six patients with uterine myomas were designated as control group. Another one hundred and thirty nine patients who were treated for cervical cancer in Seoul National University Hospital between Jan. 1998 and Dec. 1999 were designated as case group. All blood samples were collected when the patients admitted to our hospital. To eliminate the selection bias, patients with active infectious diseases, chronic inflammatory diseases, or histologically undetermined cervical abnormalities were excluded. We measured the IL-6 and IL-10 with ELISA method as usual. Because the values of interleukins did not show normal distribution, Mann-Whitney U test was selected as a nonparametric test for statistical significance determination.

Results IL-6 level in serum of patients with cervical cancer is elevated and IL-10 level is decreased than control with statistical significances. The grouped median value of IL-6 was 0.33 pg/mL in control and 6.00 pg/mL in case. IL-10 values were shown to be 0.80 pg/mL in control and 0.05 pg/mL in case. IL-6 level was higher in cervical cancer patients than control, and IL-10 level was lower in cervical cancer patients significantly. The p-value was less than 0.001 in both of them.

Conclusion It is possible that IL-6 is an factor stimulating immunological defence of host, however, IL-10 may be an immunosuppressive factor among many cytokines against cervical cancer tissues.