

## B-10. Cellular and humoral immune responses to sequential periodontopathic bacterial immunization in animal model

전수경\*, 김성조, 최점일

부산대학교 치과대학 치주과학교실

Antigen-specific T cell clones were obtained from mice immunized with *Fusobacterium nucleatum* ATCC 10953(*F. nucleatum*) and/or *Porphyromonas gingivalis* 381(*P. gingivalis*). 10 Balb/c mice per group were immunized with *F. nucleatum* followed by *P. gingivalis*, or with *P. gingivalis* alone by intraperitoneal injection of viable microorganisms. Spleen T cells were isolated and stimulated in vitro with viable *P. gingivalis* cells to establish *P. gingivalis*-specific T cell clones. T cell phenotypes and cytokine profiles were determined along with T cell responsiveness to *F. nucleatum* or *P. gingivalis*. Serum IgG antibody titers to *F. nucleatum* or *P. gingivalis* were also determined by ELISA.

All the T cell clones derived from mice immunized with *F. nucleatum* followed by *P. gingivalis* demonstrated Th2 subsets, while those from mice immunized with *P. gingivalis* alone demonstrated Th1 subsets based on the flow cytometric analysis and cytokine profiles. All T cells clones from both groups were cross-reactive to both *P. gingivalis* and *F. nucleatum* antigens. Phenotypes of T cell clones were all positive for CD4. Mean post-immune serum IgG antibody levels to *F. nucleatum* or *P. gingivalis* were significantly higher than the pre-immune levels( $p < 0.01$ , respectively). There were no significant differences in the antibody titers between the two groups. It was concluded that *P. gingivalis*-specific T cells initially primed by cross-reactive *F. nucleatum* antigens were polarized to Th2 subsets, while T cells stimulated with *P. gingivalis* alone maintained the profile of Th1 subset.