10 Alterations of cytoskeleton in human papillomavirus type 16 E7 mediated transformation. S.Miyamoto, M.Nishida, H.Kato, N.Wake, Dept.Obst.and Gynec., Med.Inst.Bioregulation, Kyushu Univ., Oita.

The present study was undertaken to explore the role of cytoskeleton in the multistage transformation processes mediated by human papillomavirus type 16 E7 (HPV16E7). The amount and the cell distribution patterns of the cytoskeletal components were evaluated in the rat embryo fibroblasts (REFs), immortalized clones established by HPV16E7 transfection alone, anchorage-independent clones by HPV16E7 + adenovirus type 5 E1B, and tumorigenic clones by HPV16E7 + activated Ha-ras oncogene (EJ-ras). Actin stress fibers were disrupted in the tumorigenic clones alone though almost equal production of total actin protein was recognized in all of 4 kinds of cells. However, decreased production of alpha-actin which was an isoform of actin protein was remarkable in the 3 kinds of transformants. Stress fiber formation was shown to be intact in the REFs alone by the immunofluorescent staining using anti-alpha-actin antibody. These results suggested two findings; 1) disruption of actin stress fibers paralleled with the acquirement of tumorigenic ability, and 2) E7 expression in the REFs was assumed to respond to the suppression of alpha-actin production.

11 Significance of genes amplifications of oncogenes in development of cervical cancer affected by human papillomavirus. S.Hamada, S. Inui, T.Hirao, T.Aono, M.Kinoshita, N. Ikei, Dept. Obst. and Gynec. Univ. of Tokushima, Sch. Med., Tokushima, Otsuka Assay Lab., Otsuka Pharma. Co.Ltd., Tokushima.

Human papillomavirus detection and genes amplifications of oncogenes were studied on DNAs derived from fifteen cases with invasive cervical cancers. HPV16 and HPV18 were detected by Southern blot hybridization and polymerase chain reaction technique. Positive HPVs were observed in eight cases (53%) by Southern blot hibridization and in fourteen cases (93%) by polymerase chain reaction technique. Gene amplifications of oncogenes were analysed by slot-blot method. Oncogenes amplifications were observed on c-myc (eight cases; 47%), N-ras (three cases; 25%), and H-ras (three cases; 25%). But N-myc gene was not amplified. "LARGE" (more than five fold) oncogenes amplifications were obseved on c-myc (one case ; 7 %) and H-ras (two cases; 17%). These results suggest that genes amplifications of oncogenes may play an important role in the development of cervical cancer affected by human papillomavirus.

12 EGFR/c-erb B gene amplification in cancer cell lines derived from female genital organs and establishment of serum-free maintained cell line. I. Ishiwata, C. Ishiwata, H.Ishikawa , Ishiwata Obst. & Gynec. Hosp., Mito, Dept. of Anatomy, Jikei Univ., Sch. of Med., Tokyo.

Amplification of oncogenes takes place in some tumors and a relationship between gene amplification and tumor malignancy has been suggested. Close similarity of epidermal growth factor (EGFR) and erb B gene products are reported and amplification of erb B gene is found in certain types of epidermoid carcinoma with increased EGFR. Thus, we studied erb B gene amplification and production of EGF in gynecological carcinoma cell lines including uterine cervical epidermoid carcinoma cell lines (SKG-II, HKMUS, HKTUS, HKUS), glassy cell carcinoma cell line (HOKUG), cervical adenocarcinoma cell line (CA), endometrial adenocarcinoma cell lines(HHUA, HSUA, HOUA), ovarian adenocarcinoma cell lines (HTOA, HUOA, HUOCA-II), uterine sarcomkja cell lins (SKN, HTMMT), etc. The erb B gene was slightly amplified in epidermoid carcinoma cell lines (SKG-II, HKMUS, HKTUS) and HOKUG. These cell lines produced EGF and were maintained in long term culturing in serum-free Ham's F-12 medium. SKG-II-SF line was established from SKG-II and was subcultivated morethan 35 times within 8 months. The N-myc amplified 3.2-fold and HPV type 18 was detected in SKG-II-SF line.