were blotted against anti-human MT1-MMP antibody following SDS-PAGE. And the band intensity of each stage tissue was not the same from each other. Preimplantation uteri examined at day 1, 2, 3, and 4 of pregnancy also revealed distinct mRNA expressions of both MT1- and MT2-MMP and there was no difference among the band intensities. However, as pregnancy progresses, the amount of MT1-MMP protein expression appears to increase such that uterine tissue homogenate of day 4 pregnancy gave the most intense band while that of day 1 was the weakest. Anti-human MT2-MMP antibody failed to detect any mouse protein antigen on the blot. From these observations, it is suggested that MT1-MMP and possibly MT2-MMP might play an important role in remodeling process of mouse uterine tissue during preimplantation period.

P-58 Expression of Membrane-Type Matrix Metalloproteinase 1 (MT1-MMP) and 2 (MT2-MMP) in Mouse Oocyte, Ovary and Oviduct

Huijin Lee, Wonyun Choi, Haekwon Kim, Sei Kwang Kim[1] and Dong Jae Cho[1]

Department of Biology, Seoul Women's University; Department of Obstetrics and Gynecology, College of Medicine, Younsei University[1]

The possible roles of membrane-type matrix metalloproteinase 1 (MT1-MMP) and 2 (MT2-MMP) in the meiotic maturation of oocytes and in the remodeling process of ovarian and oviductal tissues were investigated using RT-PCR and western blot techniques. mRNA of MT1-MMP were found to be expressed in mouse GV oocytes only and there was no discernible RT-PCR product in PB oocytes whether they were grown *in vivo* or *in vitro*. However, RT-PCR product of mRNA of MT2-MMP was observed in both GV and PB oocytes but the band intensity of GV oocytes was much stronger than that of PB oocytes. When mouse ovarian tissues obtained at prepubertal, 48 hr post PMSG, 10 hr post hCG, 15 hr post hCG or from pregnant mice at 48 hr post hCG were examined, the amount of RT-PCR products of both MT1- and MT2-MMP appeared to be the same regardless whether the ovaries were stimulated by hormone or not. Protein expression of MT1-MMP was also observed in all of the above ovarian tissues whereas MT2-MMP protein was not detected at all in the same samples. Interestingly the band intensity of MT1-MMP protein was observed to be stronger in the ovaries just prior to ovulation than before hCG stimulation and after ovulation. However, it was the highest in the ovaries of pregnant mice. Both RT-PCR products and proteins of MT1- and MT2-MMP in oviductal tissues did not reveal any significant difference among the samples of periovulatory periods. However, the oviducts of pregnant mice gave an intense signal when blotted against anti-MT1-MMP antibody although the intensity of its RT-PCR product was not stronger than that of any other tissues samples. Anti-human MT2-MMP antibody failed to detect MT2-MMP protein in the mouse tissues although gold-labeled antibody and silver-enhance method was used. Based upon these observations, it is suggested that MT1-MMP might play a role in the follicular rupture prior to ovulation and possibly involved in the remodeling of oviductal tissues at the time of pregnancy.