and 8421-8440 (sense), 13520-13501 (antisense) for nested PCR product. A statistical analysis were performed by χ^2-test.

Results: Sixty-one percent of total cases harbored mtDNA deletion under the conditions of the PCR used in this study. The results obtained are shown below.

Table 1. Age distribution

Tissue	30~39 year	40~49 year	50~59 year	Total
Lymphocyte	0/16 (0%)	0/23 (0%)	0/8 (0%)	0/47 (0%)
Ovary	10/11 (90.9%)	20/21 (95.2%)	7/7 (100%)	37/39 (94.9%)
U.M.†	7/11 (63.6%)	14/20 (70%)	4/4 (100%)	25/35 (71.4%)
A.M.‡	7/ 9 (77.8%)	17/20 (85%)	7/7 (100%)	21/36 (86.1%)

†U.M.: Uterine muscle, ‡A.M.: Abdominal muscle

Conclusions: This study confirms that absence of the mtDNA deletion in rapidly dividing cells, such as leukocytes, is understandable if we accept that such tissues may lose the defect by selective pressure. On the other hand, accumulation of mtDNA deletion was found in ovary, uterine muscle, and abdominal muscle during the ageing process. There was also a tendency of tissue-specific manner in ovary, uterine muscle, and abdominal muscle, even though statistical differences were not significant. Although this method is not quantitative and does not reflect the real number and proportion of deletions, we could demonstrate increased rate of accumulation of age-related mtDNA deletion in association with tissue-specific variation. However, more extensive tissue analysis is required to clarify causal relationship between mtDNA mutations including mtDNA deletion and biochemical or clinical defect.

M-13 ICSI is Essential for Achieve the Higher Fertilization Rate in *in vitro* Matured Human Oocytes Retrieved from Unstimulated Ovaries of Women Undergoing IVM/F-ET Cycles

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Objective: It has been suggested that *in vitro* maturation (IVM) of immature oocytes is a potentially useful treatment for women with high risk of OHSS. Qualitative changes, including zona hardening, occur in the zona pellucida during oocyte maturation *in vitro* that may reduce the fertilization rates using conventional IVF (DeFelici and Siracusa, 1982). Therefore, ICSI has been used routenly for induce the fertilization of oocytes matured *in vitro*. Recently, however, Chian *et al* (2000) reported that conventional IVF can also achieve the higher fertilization, suggesting that ICSI is not an essential for the fertilization of IVM oocytes. To demonstrate a more useful fertilization technique in matured oocytes derived from IVM/F-ETs cycles, the fertilization rate was compared with conventional IVF and ICSI.

Materials and Methods: The partners of patients (n=75) had a normal semen analysis which was proved in previouse IVF cycles. Immature oocytes were collected on day 1014 of a menstrual cycle. The patients were primed with either none (54 patients) or 10,000 IU of hCG (21 patients) before the oocytes collection. A transvaginal ultrasound machine with 19-gauge aspiration needle was used to aspirate follicles between 5 and 14 mm in diameter. Follicular aspirates were filtered with 70-m (in hole size) mesh and washed with medium, and then COCs were isolated under a stereomicroscope. The normal COCs were cultured in maturation medium, YS medium with 70% (v/v) human follicular fluid (hFF). After culture for 24 hours, the oocytes were denuded of cumulus cells with hyaluronidase and mechanical pipetting and oocyte nuclear maturation was assessed from the presence of the first polar body under the dissecting microscope. Following examination, matured sibling oocytes were randomly divided into conventional IVF and ICSI for fertilization. Fertilization was assessed 17~19 h after IVF or ICSI.

Results: After culture for 24 hours, the rate of maturation in non-primed and hCG-primed group was 45.1% (338/749) and 60.1% (194/323), respectively. In the non-primed group, the fertilization rate (82.1%, 151/184) in ICSI was significantly higher than that of conventional IVF (69.5%, 107/154). In the hCG-primed group, the fertilization rate in ICSI (89.8%, 88/98) was also significantly higher than in the IVF (63.5%, 61/96) group. There was no differences on fertilization rate between the non- and hCG-primed IVM/F-ET cycles.

Conclusions: This study suggests that ICSI is the best option for increase the fertilization rate and the transferrable embryos of *in vitro* matured human oocytes derived from women undergoing IVM/F-ET cycles, although the acceptable fertilization rate can be achieve using conventional IVF.

M-14 The Effects of Body Mass Index on Hormonal Status and Glucose Metabolism in Women with Chronic Anovulation

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Objective: To assess the difference of hormonal status and confirm the risk factors for long term complication according to Body Mass Index in women with chronic anovulation.

Materials and Methods: Serum level of LH, FSH, Estradiol, Prolactin, Testosterone, DHEA-S, fasting insulin were measured and 100 gm oral glucose tolerance test and endometrial biopsy were performed in total 75 chronic anovulation patients and 20 normal cycling infertility patients. 95 evaluated patients were divided into 3 groups including patients with chronic anovulation having BMI below 25, BMI beyond 25, normal cycling infertility patients, Group 1 (n=39), Group 2 (n=36), Group 3 (n=20), respectively. Statistical analysis was performed respect to relationship between BMI and measured hormone level, sum of glucose level during 100 gm OGTT, insulin resistance, endometrial biopsy reults using t-test, ANOVA test, Post Hoc test, Mann-Whitney test. $p<0.05$ was considered as statistically significant.