O-10(임상) X-chromosome Inactivation Patterns in Patients with Idiopathic Premature Ovarian Failure

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Objectives: X-chromosome aberrations have been reported as the cause of extremely skewed X-chromosome inactivation (XCI). The purpose of this study was to investigate whether skewed XCI is associated with idiopathic POF.

Methods: The XCI status was evaluated by androgen receptor gene (CAG)n polymorphism methylation assay in 126 women with idiopathic POF and 126 age-matched controls. The incidence of skewed XCI in POF group was compared with that of control. The correlation between age and skewed XCI was also evaluated within both groups.

Results: The incidence of extremely skewed XCI (≥ 90%) was 3.9% vs. 2.7% (p=0.710) in POF and control group, respectively. No significant differences were found in the incidence of skewed XCI on all levels between these two groups (p=0.710, ≥ 90% skewed; p=0.804, ≥ 80% skewed; p=0.812, ≥ 70% skewed). The calculation of correlation coefficients showed that, in both POF and control group, there were no significant correlations between age and XCI ratio (R=0.144, p=0.150 in POF group; R=-0.009, p=0.927 in control). Neither was there increasing tendency of skewed XCI according to the increase of age in both groups. Furthermore, there were no significant differences when compared the XCI ratio according to the age subgroups between and within both groups.

Conclusion: The incidence of skewed XCI in Korean POF population was not significantly different with control, implying that skewed XCI may not be associated with idiopathic POF. There were also no significant correlations between age and skewed X-inactivation patterns in both groups.

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O-11(임상) 미세수술적 정계정맥류 절제수술이 인간정자 핵내 DNA Integrity에 미치는 효과

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Objectives: 인간정자 핵내의 DNA integrity는 배아발달 및 임신유지에 중요한 역할을 하여 DNA integrity가 손상된 경우 불임과 유산의 원인이 된다고 하며, 정계정맥류는 DNA 손상을 일으키는 대표적인 원인 중 하나이다. 본 연구에서는 미세수술적 정계정맥류 절제수술로 교정을 하였을 때 정자 핵내 DNA integrity가 어떠한 영

향을 받는지에 대하여 알아보았다.

Methods: 2006년 4월부터 2007년 4월까지 불임을 주소로 미세수술적 정계정맥류 절제수술을 받았던 18명의 환자에서 수술전후에 정액검사의 다른 지표들과 함께 정자 핵내 DNA integrity가 어떻게 변화하였는지 조사하였다. 정자 핵내 DNA integrity를 측정하는 방법으로 Comet assay를 시행하였고 Comet assay를 통한 DNA 손상정도는 DNA fragmentation index(DFI)로 나타내었다.

Results: 수술 후 4개월에 모든 환자에서 재발의 소견은 보이지 않았으며, DNA 손상정도를 나타내는 평균 DFI는 수술 전에 19.3%, 수술 후에 13.7%로 유의한 변화를 보였다. 수술 전 DFI가 10 이상으로 비정상인 14명의 환자들 중 12명 (85%)에서 개선 소견을 보였으나 수술전 DFI가 10 미만인 정상 환자 4명에서는 1명 (25%)만이 개선 소견을 보였다. 수술 후 정자의 밀도, 운동성, 생존성에서 호전 양상 보였으나 유의한 차이는 없었다.

Conclusion: 미세수술적 정계정맥류 절제수술을 통한 수술적 교정은 정액검사상의 다른 지표의 개선 뿐 아니라 정자 핵내 DNA 손상을 감소시킬 수 있다. 이상에서 정계정맥류의 수술적 교정으로 정자 핵내 DNA integrity의 개선을 기대할 수 있으며, 이는 보다 양호한 정자를 많이 얻을 수 있어 자연임신이나 보조생식술의 성공 가능성을 높일 수 있다는 것을 제시한다.

O-12(임상) Direct Ovarian Stimulation by Ovarian Injection of rFSH and Somatropin for the Poor Responders in IVF-ET Program

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Objectives: To access the effect of direct ovarian stimulation by ovarian injection of rFSH and somatropin (DOS) on oocyte recovery, embryo development and cycle outcome in the poor responders undergoing IVF-ET program.

Methods: One hundred forty-nine patients participated in this study. The patients were divided into 3 groups based on their prior response and application of DOS to the COH: Group 1 (control, mean age: 34.2±5.6): 98 patients with prior normal response, Group 2 (Non-DOS, mean age: 39.9±4.2): 23 patients with a prior poor response, to whom DOS did not be applied, and Group 3 (DOS, mean age: 40.7±3.4): 26 patients with a prior poor response, to whom DOS was applied. Patients with endometriosis, uterine pathology and PCOS were excluded. Ovarian stimulation for all patients was initiated with 150~225 IU of rFSH and 75 IU of hMG with the standard GnRH-a long-protocol. For DOS, 0.4 cc of culture media (Quin's Advanced Fertilization media, SAGE, USA) containing 30 IU of rFSH (Gonal-F®, Merk Serono S.A., USA) and 0.2 IU of Somatropin (Decalge inj®, LG Life Science, Korea) was injected on each ovarian stroma with 19 gauge needle (Chiba needle®, Angiomed, Germany) on the cycle day 2 and additional injection on the cycle day 4 was decided after due consideration of an ovarian responsiveness.

Results: Number and quality of oocytes retrieved and their development of embryos in DOS group comparing to non-DOS poor responders, were significantly improved (No. of oocytes retrived: 6.3±4.8 Vs. 1.6±0.9, good quality oocytes: 4.3±3.8 Vs. 1.1±0.5, no. of good quality embryos: 3.2±2.1 Vs. 0.42±0.1, cumulative embryo score: 93.6±70.1 Vs. 42.8 ±32.6, $p<0.05$, in Sheffe).

Conclusion: An alternative approach of DOS in addition to the standard GnRH-a long-protocol for the patients with prior poor response enhances the ovarian response, thereby improves the quality of transferred embryos and the clinical