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Comparison of the Motility of Testicular Sperm Cultured at Different Culture Conditions; Human Follicular Fluid (hFF), Temperatures

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Objectives: The aim of this study was to evaluate the testicular sperm motility following different culture conditions such as human follicular fluid (hFF) and temperature.

Materials and Methods: Testis biopsy (n=21) from beneath the tunica albuginea was dissected into small fragments. Testicular tissues were minced into small pieces by blade and recovered sperm were cultured in Ham's F-10 medium with or without 40% FF at different temperatures. The same samples were allocated to four groups following culture temperature and w/o FF (Group I; 37°C/with FF, Group II; 32°C/with FF, Group III; 37°C/without FF, Group IV; 32°C/without FF). The atmosphere of incubator set at 32 and 37°C, 5% carbon dioxide for culture. The samples which were retrieved were cultured during 48 hrs and the sperm motility was evaluated at 24 and 48 hrs. Also, the viability was observed at 48 hrs. When observing, 100 sperm were counted for scoring.

Results: After 24 hrs culture, Sperm motility was $23.5 \pm 2.1\%$ (Group I), $8.1 \pm 1.1\%$ (Group II), $10.4 \pm 1.4\%$ (Group III) and $4.0 \pm 0.8\%$ (Group IV) respectively. After 48 hrs, the motility was changed as $32.0 \pm 2.3\%$ (Group I), $14.3 \pm 1.7\%$ (Group II), $5.3 \pm 1.4\%$ (Group III) and $4.3 \pm 0.9\%$ (Group IV). In FF group (I and II) presented statistical significance between groups. In the group III, IV presented no statistical significance. The motility was significantly higher in group I compared with group II and control (Group III, IV) statistically during culture. But, the results of the viability were reversed. The viability is $54.4 \pm 4.1\%$ at 37°C and $59.4 \pm 3.7\%$ at 32°C after 48 hrs.

Conclusion: From these results, it can be suggested that culture condition of testicular sperm was optimal at 37°C in medium including FF. It might be applied in the clinical setting to obtain male gametes in human ART program.

P-5 수컷 흰쥐 저정낭과 정관에서 세로토닌 수용체 아형들의 유전자 발현 조절

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목 적: 세로토닌 (serotonin, 5-HT)은 카테콜아민과 더불어 포유동물의 다양한 성적 행동을 조절하는