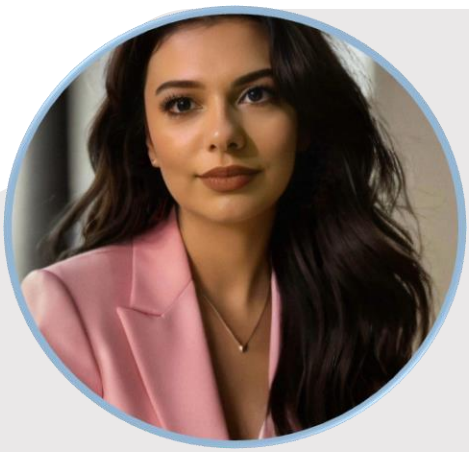

KEY WORDS

- ✓ Cumulus Cell Extracellular Matrix (CCECM)
- ✓ Sperm Quality
  Density Gradient (DG)
- ✓ Swim-Up (SU)
- ✓ DNA Fragmentation

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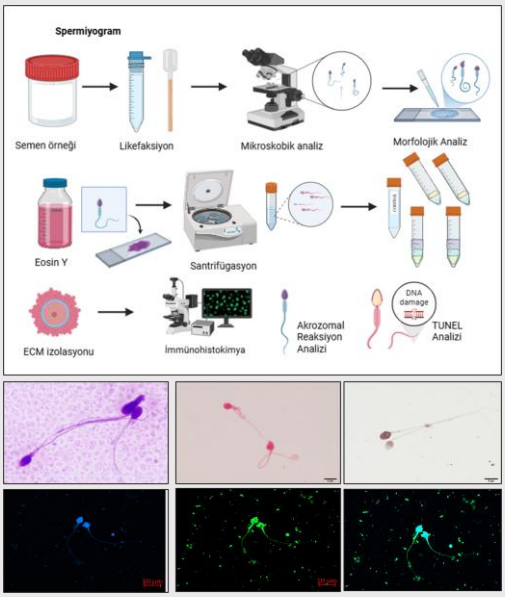

EFFECTS OF SPERM PREPARATION PROTOCOLS USING CUMULUS CELL EXTRACELLULAR MATRIX ON SEMEN PARAMETERS, FERTILIZATION ON CAPACITY, AND SPERM DNA FRAGMENTATION

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THESIS ABSTRACT

This study investigated the effects of adding cumulus cell extracellular matrix (CCECM) to sperm culture medium used in assisted reproductive technologies (ART) on sperm parameters, fertilization capacity, and DNA integrity. Ejaculate samples from 30 normozoospermic individuals were divided into five groups (Control, DG, DG+K, SU, SU+K) for evaluation. The addition of CCECM, particularly in the SU+K group, improved motility, viability, and acrosome reaction capacity, while reducing DNA fragmentation. No significant differences in morphology were observed between the groups. The results suggest that the inclusion of CCECM may enhance sperm quality and could be an effective approach in ART, especially when combined with the swim-up method.

APPLICATION AREAS OF THE THESIS RESULTS

Our results support improved success rates in assisted reproductive treatments and offer a scientific basis for developing strategies to address male infertility.

ACADEMIC ACTIVITIES

PRESENTATIONS

1.Aghayeva, S., Bulut, A., Aslan, K., Çakır, Ç. (November 14–17, 2024). *Impact of Monopronuclear and Tripronuclear Patterns on ICSI Outcomes: Analyzing Contributing Factors and Clinical Implications.* TSRM 2024 – National Congress on Reproductive Health and Infertility, Antalya, Türkiye

2.Aghayeva, S., Avcı B. (2024, Nisan 17-21). Assessment of Artificial Shrinkage and Assisted Hatching in Frozen-Thawed Embryo Transfer Cycles. KSDF 2024- Kadın Sağlığı Dernekleri Federasyonu Kongresi, Antalya, Türkiye

3.Aghayeva, S., Çakır, Ç., Aslan K., Kasapoğlu., I. (2024, Eylül 26- 28). 7. gün blastosist gelişimi: Risk faktörlerinin analizi ve geç gelişimin predikte edilmesi. NICHE 2024- Ulusal ve 2. Uluslararası Histoloji ve Embriyoloji Kongresi, Sakarya, Türkiye.