عنوان مقاله:

Follicle stimulating hormone increases spermatogonial stem cell colonization during in vitro co-culture

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خلاصه مقاله:

The complex process of spermatogenesis is regulated by various factors. Studies on spermatogonial stem cells (SCCs) have provided very important tool to improve herd genetic and different field. ۰.۲ to ۰.۳ percent of total cells of seminiferous tubules is consist of spermatogonial stem cells. To investigate and biomanipulation of these cells, proliferation and viability rate of cells should be increased in vitro, at first. Follicle stimulating hormone (FSH) has been suggested to play a determinant role in the survival of germ cells in addition to increasing spermatogonial proliferation. In this study, the in vitro effects of FSH on spermatogonial cell colony formation were investigated. Sertoli and spermatogonial cells were isolated from ۳-۵ months old calves. The identity of the Sertoli cells and spermatogonial stem cells were confirmed through immunocytochemistry and colony morphology, respectively. Co-cultured Sertoli and spermatogonial cells were treated with FSH in different dose of ۱۰, ۲۰ and ۴۰ IU mL-۱ FSH, before colony assay. Results indicated that, FSH increased in vitro colonization of spermatogonial cells in comparison with control group. In conclusion, using FSH provided proper bovine spermatogonial stem cell culture medium for in vitro study of these cells.

کلمات کلیدی:

Bovine, Co-culture, FSH, Sertoli, SSCs