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## Effect of Taurine on Sperm Characteristics and Gene Expressions in Fresh Boar Semen during *In Vitro* Storage

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The purpose of this study was to investigate the effect of taurine on sperm characteristics and gene expressions(*bax* and *Gpx*) in fresh boar semen during *in vitro* storage.

The motility of spermatozoa in Modena, Modena plus taurine 25 mM, Modena plus taurine 50 mM, Modena plus taurine 75 mM and Modena plus taurine 100 mM were 63.1%, 65.1%, 65.3%, 82.5% and 80.8%, respectively. Using Makler counting chamber, the viability of spermatozoa during *in vitro* storage for 7 days were 46.7% in control, 64.0% in treated with taurine 25 mM, 65.4% in treated with taurine 50 mM, 66.2% in treated with taurine with 75 mM and 63.4% in taurine with 100 mM respectively. Employing the hypoosmotic swelling test(HOST), spermatozoa membrane integrity were 44.8% in control, 58.1% in treated with taurine 25 mM, 61.0% in treated with taurine 50 mM, 67.2% in treated with taurine 75 mM and 71.1% in treated with taurine 100 mM. In Rose-bengal staining method, the rate of abnormal spermatozoa in treated with 0, 25, 50, 75 and 100 mM were 17.4%, 15.9%, 16.3%, 16.3% and 16.5%, respectively.

The patterns of gene expression for *bax* and *Gpx* in taurine added to semen extender during *in vitro* storage were examined by the reverse transcriptase-polymerase chain reaction(RT-PCR). Expression of *Gpx* mRNA *in vitro* storage for 7 days were detected in treated with taurine groups(25 mM, 50 mM, 75 mM and 100 mM) excepted for control group. The transcripts of *bax* was only detected in control.

These results indicate that adding the taurine in boar semen extender were affects the sperm characteristics and gene expression.

Key words: *Boar spermatozoa, Taurine, reverse transcriptase - polymerase chain reaction(RT-PCR), Bax, Gpx*