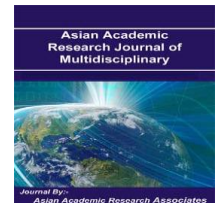




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## QUIESCENCE STEM CELLS (QSCS) FOR THE TREATMENT OF INFERTILITY IN MALE MICE

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### Abstract

**Background :** The efficacy of treatment with stem cells was limited due to the reduced viability after transplanted of stem cells. This is due to stem cell have experience aging (senescence cells), apoptosis and gene mutations before transplanted. It was shown that 93-99% of transplanted stem cells die between 1<sup>th</sup> to 7<sup>th</sup> days after transplantation. Needed information about the existence of viable stem cells like quiescence stem cells (QSCs).

**Aim :** Utilization of QSCs as treatment of infertile male mice were effective

**Design of study :** true-experimental study

**Method :** QSCs were transplanted into male mice which testicular degeneration had been induced, compared with positive and negative control. Details of the groups divided as follows: The negative control group (T0-): 7 normal male mice (do not experience infertility) were injected with 0.1 cc PBS in the coxygea; The positive control group (T0+): 7 male mice infertility were injected with 0.1 cc PBS on the coxygea; The treatment with standard stem cells (StandardSCs) group (T1): 7 male mice infertility were injected with standard stem cells from normoxic cultures (O<sub>2</sub> 21%) for 3 days with a dose of 100 million cells / animal; The treatment QSCs group (T2) : 7 male mice infertility were injected with QSCs from hypoxic culture (O<sub>2</sub> 1%) for 3 days with a dose of 100 million cells / animal

**Result :** The QSCs were effective as a treatment for infertile male mice. This can be evidenced by the occurrence differentiation of QSCs based on expression of p63 and SSCs and then cell formation of cells is needed as spermatogonial cells, sertoli cells, leydig cells and seminiferous tubules improvement.

**Conclusions :** QSCs were effective for the treatment on infertility in male mice compared with standard stem cells based on p63 and SSCs expressions, and testis tissue repair.

**Key Words:** QSCs, male mice infertility, p63, SSCs, testis tissue repair