

## ABSTRACT

### COMPARISON OF HUMAN SPERM RECOVERY AFTER DENSITY GRADIENT PREPARATION USING PERCOLL AND SIL-SELECT PLUS

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One of the important steps of Assisted Reproductive Technology procedure is the sperm preparation. The purpose of the sperm preparation is to separate the motile and morphologically normal spermatozoa from the immotile, morphologically abnormal and non-viable spermatozoa, cellular debris, and the seminal plasma. There are several sperm preparation techniques, including Density Gradient Centrifugation (DGC) method that yield a higher number of motile spermatozoa. Since Percoll (PVP coated colloidal silica) as a density medium was removed from the market for clinical use in the human, other media like Sil-Select Plus (silane coated colloidal silica) were develop in order to replace Percoll. The objective of the study is to evaluate Sil-Select Plus can replace Percoll to yield a high sperm recovery.

This was an experimental laboratory study using retrospective observational design. Data of the samples were taken from medical records of couples participating in ART program in one private hospital in Surabaya for a period of ten years (from 1996 to 2005).

The results showed that Sil-Select Plus was similar to Percoll in producing Recovery Rate ( $p > 0.05$ ). Sil-Select Plus was yield a higher motility than Percoll ( $p < 0.05$ ). Percoll and Sil-Select Plus were yield a higher recovery in abnormal sperm than normal sperm ( $p < 0.05$ ). If we predicted a stepwise regression, Recovery Rate was influenced by pre-existing sperm motility, concentration and percentage normal midpiece, respectively, in Percoll, and plus percentage oval head with normal acrosome respectively in Sil-Select Plus.

Key words : Sil-Select Plus, Percoll, DGC, Sperm Recovery