

A-48: Alternative medium for improvement of sperm quality

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Improvement of sperm quality in vitro caters mainly for Intra Uterine insemination and Assisted Reproductive Technologies. The goal is to harvest active motile spermatozoa in order to make it more suitable for fertilization.

This study was undertaken to find a cheaper alternative to commercial media used, in processing sperm samples. In the 1st phase washing of spermatozoa in Gelafundin, King Coconut (KC) water, Compound lactate and Darrow's lactate with 10% maternal serum was done. The viability of spermatozoa in KC water and lactate solutions was poor. Spermatozoa washed in Gelafundin had no significant decrease in viability upto 6 hours. Therefore in the 2nd phase, separation of active motile spermatozoa was done using the swim-up discontinuous percoll gradient and Ficoll entrapment method, employing Gelafundin as the medium.

Swim-up with Gelafundin improves the motility by 20-25%, and recovery of active motile spermatozoa was 50-55%. Percoll gradient with Gelafundin improves motility by 35-40% with 80-85% recovery. Gelafundin when used with Ficoll 400 improved motility by 15-20% with 70-75% recovery.

This study demonstrates that Gelafundin could be used as an alternative medium for quality improvement of spermatozoa. For separation of active motile spermatozoa, percoll gradient with gelafundin has been shown to be the most satisfactory method.