

## SUMMARY

An attempt was made to correlate fertility, vitamin E levels in blood, seminal plasma, sperm cells with sperm counts, capacitation, and ATP levels in intact spermatozoa. The subjects were classified according to sperm concentration. A value greater than  $40 \times 10^6$  cells/ml was classified as normal subjects and a value lower than  $20 \times 10^6$  cells/ml was classified as infertile.

1. Seminal plasma vitamin E of the infertile group was significantly lower than that of normal group. The levels of vitamin E and ATP in the sperm cell can not be correlated at present time due to an insufficient number of subjects available. However, there seems to be an inverse correlation between the per cent of mature cells and vitamin E content of the cells.

2. Vitamin E treatment had no effect on the number of spermatozoa in infertile group. In normal group, an increase in sperm concentration was observed after the treatment, and this can be correlated to the high level of plasma vitamin E when compared with those receiving placebo.

3. A small change in the ATP level of sperm cells was observed within two hours of storing the sample at room temperature. A marked decrease in cellular ATP was seen when storage of the sample was prolonged beyond 2 hours. It was concluded that ATP assay should be performed within two hours of ejaculation.

4. Capacitation was estimated by using the removal of

tetracycline hydrochloride from labelled spermatozoa in the presence of detoxified human serum. It was extremely difficult to see labelled spermatozoa under the fluorescent microscope and the per cent of live spermatozoa which were labelled was very low or nil in some sample. Moreover, the removal of tetracycline hydrochloride did not seem to be associated with capacitation process since centrifugation also removed the drug from live sperm.

# BIOGRAPHY

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