

P19

Gamete and embryo transport using a transport incubator: the maintenance of the correct pH and temperature

NA Nel, ML de Beer, E Erasmus & T Matsaseng

Reproductive Biology Unit, Tygerberg Fertility Clinic, Department of O&G, Tygerberg Hospital, Tygerberg

INTRODUCTION:

Fertility treatment is expensive due to laboratory equipment used during the procedures, one procedure being Intra-cytoplasmic Injection [ICSI]. Tygerberg Fertility Clinic offers an affordable, low cost assisted reproduction program, making it accessible to a wider scope of patients and expensive ICSI equipment was not available during the study period. Since many patients need ICSI, another clinic was outsourced to perform ICSI at an affordable cost. Ova/ embryos needed to be transported safely between clinics and a portable incubator [The LabotectThermoCell® Transporter 3018] was used for the transport. It is very important that optimal culture conditions should be maintained during such transport.

AIM:

To investigate whether culture media pH and temperature remained optimal during transportation between two Fertility Clinics in a travel incubator.

MATERIALS AND METHODS:

Temperature was measured in sterile water using a wire thermometer threaded through the lid of a transport tube and placed into the heated [37°C] water in the tube in the heated incubator. Measurements were noted at 0, 15 and 30 minutes. pH (cleavage medium) was measured with a blood gas machine using a gas tight syringe. Medium in transfer tubes was pH equilibrated in a CO₂ incubator. The tubes (3) were capped and placed in the transport incubator for 0, 15, and 30 minutes each. The medium was transferred to an air tight syringe and the pH measured. All measurements were repeated 25 times.

RESULTS:

An acceptable temperature ($\pm 37.6^{\circ}\text{C}$ – min. 37.4°C , max. 37.7°C) and pH [range of 7.13 to 7.23] within the recommended [7.2 ± 0.1] pH range for cleavage medium was maintained during the 30 minute travel period.

CONCLUSION/DISCUSSION:

The transport incubator used when transporting oocytes/embryos between the two clinics was very efficient in keeping both the temperature and pH constant and optimal.