QUARTER 3
JULY – SEPTEMBER 2005

GYTECH QUARTERLY

The Impact of Culture Media on Success Rate in ART: Where Have We Gone in the Last Decade?

Patrick Quinn
SAGE In Vitro Fertilisation Inc, CooperSurgical, San Clemente, USA

During the past decade, national data from Australia and the USA have shown a steady linear increase in pregnancy rates from IVF and ICSI to levels equivalent to those from GIFT.

The GIFT rates remained relatively constant at around 21%. The IVF and ICSI rates are similar, indicating that the increase is due more to improvements in the embryo culture procedure than the ICSI technique itself.

Pregnancy rates from blastocyst transfer increased nearly two-fold in Australia and New Zealand but appear to have reached a plateau.

The adjustment pregnancy rate from non-blastocyst transfer is still similar to that from GIFT. It likely therefore changes in media formulations and, just as importantly, the culture techniques used have played a major role in contributing to the increased pregnancy rates obtained from ART procedures.

Major milestones in laboratory procedures over the last decade include the introduction of ICSI in 1993, changes in the formulation of culture media, and an increased use of sequential media to extend embryo development to the blastocyst stage prior to transfer.

Pregnancy rates in most countries have steadily increased over the past decade. The aim of this paper is to review changes in Assisted Reproductive Technology (ART) procedures that may have contributed to the increased pregnancy rates.

ICSI has certainly opened up ART to a new category of patients but once fertilised, the rate of embryo development is similar to that of embryos derived from conventional IVF. However, with the ICSI procedure, pregnancy rates may be higher on a per oocyte retrieval basis because of the likelihood of unimpaired fertility in the female partner.

If it can be assumed that overall stimulation protocols and patient demographics apart from factors that determine the mode of insemination (IVF vs. ICSI) were relatively similar over the three groups, IVF, ICSI and GIFT, the obvious conclusion is that culture media themselves and the way they are used have been the major contributors to the increased pregnancy rates.

In fact, one could say that the culture conditions in vitro are now equivalent to those that the embryo is exposed to in vitro during the GIFT procedure. Refinements to media composition and culture procedures such as pH and temperature control, and embryo selection have all been influential in increasing pregnancy rates.

A proposal and evidence has been given that improvements in ART media formulation have played a significant role in the improved out comes from ART procedures over the past decade. Vigilance is needed by all to ensure adequate information exchange in a controlled fashion to enable this progress to continue.

For a copy of the complete article please contact Tara Edwards at tedwards@gytech.com.au or by phoning 03 98225911

IN THIS ISSUE

GYTECH QUARTERLY

Featured Product

Rocketmedical

Embryon® ESL™ Single Lumen IUI Catheter

Embryon® EDL™ Double Lumen IUI Catheter

ESL™ SINGLE LUMEN

Dual diameter catheter with 5 x 1cm markings, atraumatic distal top and dual sides eyes for easy, gentle insemination

EDL™ DOUBLE LUMEN

With integral stylet wire, 5 x 1cm marking, atraumatic distal tip and dual sides eyes for insemination where a pro-formable catheter is required to gain access

Sterile – Single Use

Guaranteed – Ethylene Oxide Free

CASSETTES FOR STORAGE OF STRAWS

Rectangular or triangular cassettes made of plastic

Comprising two parts – the transparent tubular body and the coloured lift

Available in 6 different colours for better identification of stored samples

Made from PVC, the colour lift is polypropylene (PP)

Cassettes can be used for storage of individual or small numbers of straws for cryo-preservation of biological material in liquid nitrogen tanks. They are used as an alternative to goblets

Neither the main body nor the lift comes into contact with the patient, gamete or embryo

For cassette sizes and capacity see the separate Cryo Preservation & Storage sheet

GYTECH QUARTERLY

New Product

The micro tool of choice for manipulation and transfer of Oocytes and Embryos during IVF and ICSI

Strips cumulus and corona cells for Oocyte prior to ICSI procedures

Easily removes the corona to assess presence of pronuclei in conventional IVF

Safely transfers Embryos and Oocytes through various media and solutions

Unique dispenser packaging maintains sterility

Compatible with Flexipet Handle

ETOH residue is toxic to embryos and sperm, that's why The Stripper pre-sterilised tips are: ***GAMMA IRRADIATED FOR STERILITY***

Endotoxin Tested

Mouse Embryo Tested

Flexible, Unbreakable

Will Not Scratch Dishes

Come in packs of 20

Sizes Available: 100um, 125um, 135um, 150um, 175um, 200um, 275um, 600um

MidAtlantic DIAGNOSTICS, INC.

Conferences

Fertility Society of Australia

2005 Annual Scientific Meeting

"Today's Choices Tomorrow's Consequences"

4-7 September

Christchurch Convention Centre

New Zealand

LOOKING FOR A PARTICULAR PRODUCT?

WE CAN HELP YOU FIND IT

Call us today on 03 9822 5911

Need more information?
Call Gytech on 03 9822 5911 or visit our website www.gytech.com.au

Janet Padgham, Director

0418 204 910
jpadgham@gytech.com.au

Simon Kent, National Sales Manager

0411 230 532
skent@gytech.com.au

Susie Blum, Account Manager TAS

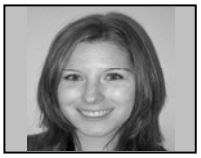
0411 044 364
sblum@gytech.com.au

Katherine Bracken, Account Manager WA, SA & VIC

0418 204 904
kbracken@gytech.com.au

Pam Smith, Account Manager NSW

0418 204 303
psmith@gytech.com.au



Bree Tozer, Account Manager NSW

0418 204 476
btozer@gytech.com.au

GYTECH PTY LTD
SPECIALISED MEDICAL EQUIPMENT & CONSUMABLES

PO BOX 76
ARMADALE NORTH 3143
VICTORIA AUSTRALIA
TELEPHONE 03 9822 5911
FACSIMILE 03 9822 4911
WWW.GYTECH.COM.AU