Introduction to
In-Vitro Fertilization (IVF) Service

Assisted Reproductive Technology Unit
The Chinese University of Hong Kong
Prince of Wales Hospital
2017
Treatment Procedures

- IVF involves nine main stages:
  - Counselling
  - Pre-treatment Preparation (Down Regulation)
  - Control Ovarian Hyperstimulation
  - Monitoring Oocyte Maturation
  - Oocyte Retrieval & Semen Collection
  - Fertilization of Oocytes
  - Embryo Culture
  - Embryo Transfer
  - Luteal Phase Support
Counselling

- **Purpose**
  - Understand the causes of infertility
  - Treatment plan and procedures

- **Contents**
  - Implication of the procedures on couple and their families
  - Financial implication
  - Alternative options other than IVF treatment
  - Possibility of treatment failure
Pre-treatment Preparation (Down Regulation)

- Call on period Day 1 (fresh bleeding with normal flow)  
  **Cut off time ~ 4:00pm**

- Attend IVF clinic for ultrasound scan and blood tests on period Day 2 or 3

- The need for down regulation will be based on test results (e.g. use of oral contraceptive pills or nasal spray)
Control Ovarian Hyperstimulation

- Require around 10-14 days of injection
  (may choose either highly purified gonadotrophin injection or intramuscular injection)
  → stimulate the ovaries to produce mature follicles

- May self inject highly purified gonadotrophin so as to reduce the number of visits
Monitoring Oocyte Maturation

- Monitor the ovarian response by blood sampling and ultrasonography
- Hormones reach acceptable level
- Monitor the follicular growth and number
- Target: 10-15 mature follicles

Note

- If there are less than three mature follicles/excessive number of follicles, the treatment may be abandoned
When follicles mature……

Night Injection (HCG trigger)

34 to 36 hours after injection

Wife will be admitted to the hospital in the morning of oocyte retrieval

Oocyte Retrieval
Oocyte Retrieval

• Trans-vaginal retrieval
• Intravenous injection of analgesic and sedative
• Oocyte retrieval (procedure takes around 20 to 30 mins)

Semen Collection

• No ejaculation of sperm for 2-5 days before semen collection
• Take a shower, change clothes & underwear before attending the clinic
• Husband produces a sperm sample by masturbation
• May consider sperm banking beforehand if husband is not in HK or has history of difficulty in producing a sperm sample
Fertilization of Oocytes

Oocyte + Sperm → Fertilized Oocyte in cell culture incubator for 2 to 5 days → Embryo
Intracytoplasmic Sperm Injection (ICSI)

- Recommended for husbands with poor sperm quality e.g. low sperm count, low sperm motility, abnormal sperm morphology, etc
Embryo Culture

Grade 1

Grade 2

Grade 3

Grade 4

Grade 5
Embryo Transfer

Doctor meets the couple

Embryo is transferred into uterus

Embryo transfer is completed

Note:
Wife is advised to drink more water as a full bladder is needed for embryo transfer.
Luteal Phase Support

HCG Injection

Progesterone Suppositories

Blood Test for Pregnancy

Positive $\rightarrow$ Success

Negative $\rightarrow$ Failure
Frozen Embryos

- Conditions for embryo banking
  - When there are surplus good quality embryos from one IVF cycle
  - Patient’s physical condition is not suitable for embryo transfer after oocyte retrieval

- Please note:
  - Storage of embryos for a maximum of 10 years
  - Renew consent for embryo storage every 2 years
  - Advise early replacement
Frozen Embryo Transfer

- Natural Cycle
  - Ovulation tracking by blood monitoring

- Hormonal Replacement Treatment Cycle
  - Endometrial preparation by exogenous hormone replacement
Complications

- Ovarian Hyperstimulation Syndrome (OHSS)
  - Polycystic ovary
  - Ascites & pleural effusion
  - Electrolyte imbalance
  - Nausea/ vomiting/ shortness of breath
  - Decrease urine output
    usually occurs during luteal phase support

- Pelvic Infection/ Bleeding
  Seldom occurs
Complications

- Ectopic Pregnancy
- Multiple Pregnancy

Especially when transferring more than one embryo
Medication Side Effects

- Breast tenderness, mild abdominal bloating and increase in vaginal discharge
- May experience redness, swelling and pain at the injection site after intramuscular injection
Treatment Information

- Doctor reviews medical history and prescribes medication accordingly (gonadotrophin injection)
- Allow to choose the type of gonadotrophin injection
- Additional charge incurred
Points to Note

- Keep relax
- Avoid taking Chinese herbal medication
- Balanced diet & normal daily activities
- No vigorous exercises
- Normal sexual activity

Abstinence for 2-3 days before semen collection
Appointment Booking

- Public Service under HA Guidelines
  - Hong Kong citizen
  - Female age under 40 (during treatment)
  - No child for current marriage
  - Allow a maximum of three public bookings (before age 40)
    **also depends on previous treatment response**
  - Normal ovarian response FSH<10
Appointment Booking

- Private Service
  - Shorten waiting time
  - Not eligible for public service
Contact Us

24 Hour Hotline: 3505-3148

Address: Assisted Reproductive Technology Unit
9F, Special Block EF, Prince of Wales Hospital,
Shatin, New Territories

Office Hours:
Mon to Fri:  8:00 am – 4:00 pm
Sat, Sun & Public Holidays:  8:00 am – 12:00 nn

--- www.ivfhk.com ---