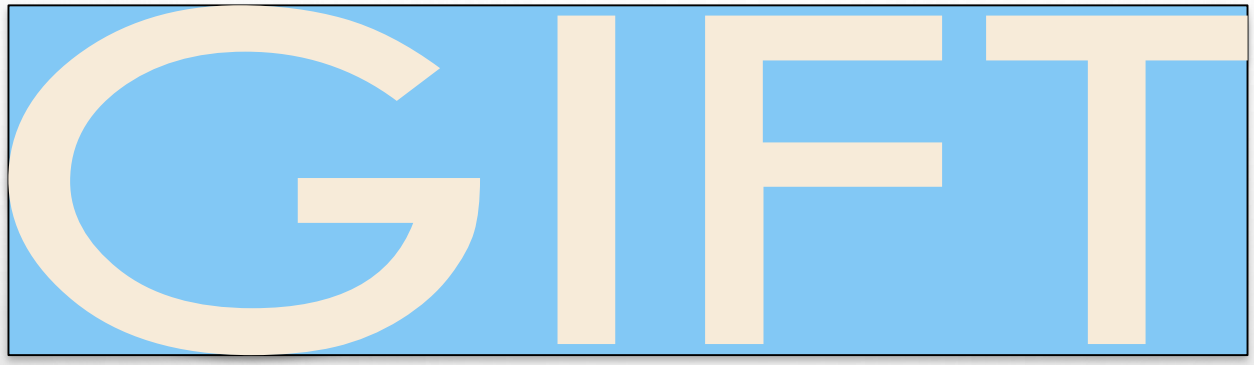
ASSIGNMENT OF REPRODUCTIVE BIOLOGY



Gamete Intra-Fallopian Transfer

INTRODUCTION

GIFT stands for Gamete intrafallopian transfer

It is a tool of assisted reproductive technology (refers to treatments used to assist people in achieving a pregnancy.) against infertility.

Eggs are removed from a woman's ovaries, and placed in one of the Fallopian tubes, along with the man's sperm.

HISTORY

- The first example of GIFT involved primates during the 1970s
- The technique was first attempted by STEPTOE and EDWARD
- The technology was unsuccessful until 1984.

- Then an effective GIFT method was invented by Ricardo Asch at the University of Texas Health Sciences Centre and the procedure resulted in the first human pregnancy.

- The GIFT technique was created in hopes of generating an artificial insemination process that mimicked the physiological sequences of normal conception.

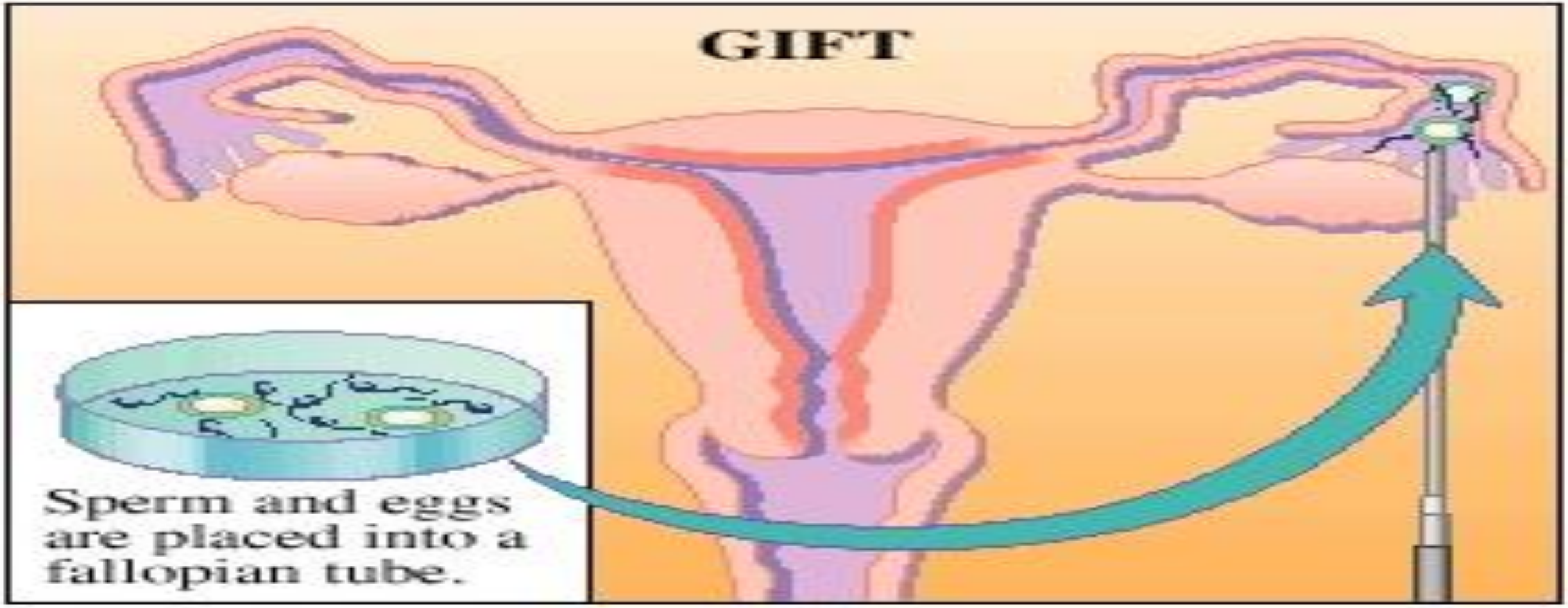
- The technique was further advanced at the Center for Reproductive Health at the University of California, Irvine, when Asch and his associate Jose Balmaceda employed a newly developed catheter(a tubular medical device used for insertion in canals, passageways, body cavities usually to permit injection or withdrawal of fluids or to keep a passage open) into the GIFT procedure that eliminated the need for general anesthesia in the later stages of the procedure.

PROCEDURE

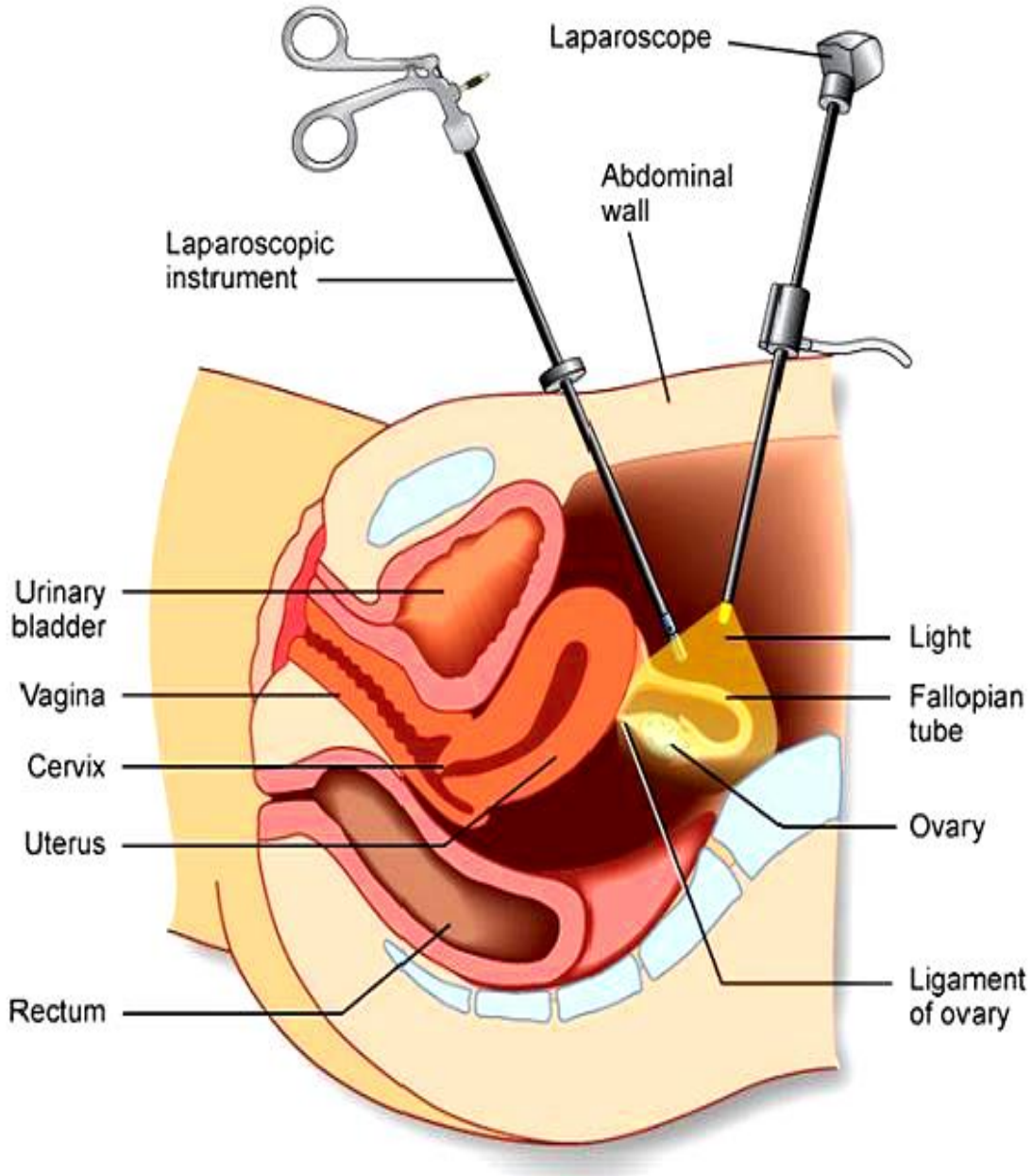
- Oocytes retrieved via laparoscopy (Laparoscopy is keyhole surgery used to examine or operate on the interior of the abdominal or pelvic cavities.)
- Oocytes and sperms are placed in same catheter (**catheter** is a thin tube made from medical grade materials serving a broad range of functions. Catheters are medical devices that can be inserted in the body to treat diseases or perform a surgical procedure. They allow drainage, administration of fluids or gases, access by surgical instruments, and also perform a wide variety of other tasks depending on the type of catheter.)
- Injected directly into the fallopian tube via laparoscopy.
- Embryo travels through the fallopian tube to the uterus for implantation.

GIFT

With GIFT, sperm and eggs are placed in a fallopian tube to allow fertilization in the natural site. The woman must have at least one normal, open fallopian tube.



Laparoscopy Infertility Treatment



ADVANTAGES:

- For selected cases of infertility, GIFT may have a slightly higher success rate than IVF in terms of deliveries per egg retrieval. This may be due to the fact that the GIFT procedure deviates less from the natural conception process. GIFT allows the embryo to arrive and implant in the uterus naturally.
- Although it is said by some clinicians that GIFT is less expensive than IVF (which requires more time because of the incubation period of about 36 hours in the laboratory), the GIFT procedure may be as expensive due to the cost of laparoscopy, general anaesthesia and hospitalization.
- Because fertilization takes place within the fallopian tube, GIFT offers an option for people whose religious beliefs prohibit conception outside the body.

DISADVANTAGES

•You need at least one healthy fallopian tube for GIFT.
•GIFT does not allow for visual confirmation of fertilization because this occurs inside the body. With IVF, fertilization can be observed and confirmed in the laboratory. If GIFT is unsuccessful, doctors have no way of knowing the reason for this. It might have failed because the sperms were incapable of fertilizing the eggs, because the eggs themselves were not viable, or because other factors were responsible. However, the list of possible factors can be diminished if, for example, excess eggs, harvested during egg retrieval, are fertilized *in vitro* in the laboratory and lead to embryo development.
•GIFT involves surgery and requires general anaesthesia.
•The chance of a pregnancy with at least one baby is increased by transferring more than one egg to your fallopian tubes during GIFT. However, the chances of conceiving twins or triplets are automatically greater. While you may welcome the possibility of giving birth to more than one baby, a multiple pregnancy increases the risk of complications such as miscarriage.
•The fertility drugs used to stimulate egg production can have side-effects. Recent studies show no increased risk for breast or ovarian cancer among women who have used fertility drugs. One potentially serious side-effect is the ovarian hyperstimulation syndrome. This is characterized by a loss of fluid from the blood circulation and build-up of fluid in the abdominal cavity. As such the blood becomes thicker and is more prone to clot formation. This condition may be accompanied by electrolyte disturbances and may lead to a life threatening situation requiring management in an intensive care unit. Fortunately, this is a rare occurrence, but it emphasizes the importance of strict monitoring of all parameters by the doctor after administration of fertility drugs.
•In certain cases, GIFT may increase the risk of ectopic pregnancy, whereby an embryo implants in a fallopian tube or the abdominal cavity instead of in the uterus. The risk does not appear to be significantly higher in cases where the tubes are normal and no other pelvic disease is present. A significant increase in the incidence of ectopic pregnancies has, however, been reported when GIFT is performed in abnormal fallopian tubes. Damage to a fallopian tube might inhibit its normal functioning, with the result that the embryo might not be transported by the tubal cilia (little hair-like structures) toward the uterus in time. The embryo might implant in the wall of the fallopian tube, resulting in an ectopic pregnancy.

THANK YOU