

Sexually Transmitted Diseases (STDs) & Infertility

1 Mark Question

1. Name the STDs which can be transmitted through contaminated blood. [All India 2009 C]

Ans. AIDS (Acquired Immuno Deficiency Syndrome) is a STD that can be transmitted through contaminated blood

2 Marks Questions

2. 'Intra-cytoplasmic sperm injection' and 'Gamete Intra Fallopian Transfer (GIFT)' are two assisted reproductive technologies. How is one different from the other? [All India 2014 C]

Ans. In gamete intra fallopian transfer, the ovum from a healthy donor female is transferred to a female, who cannot produce ova but can provide suitable environment for fertilisation and embryo development (in vivo fertilisation).

While in intra cytoplasmic sperm injection, the fertilisation is done in vitro by injecting sperms directly into the ovum, from a donor female, under simulated conditions. The embryo is thus, formed in laboratory and later transferred to uterus or Fallopian tube for further development

3. Explain the Zygote Intra Fallopian Transfer Technique (ZIFT). How is Intra Uterine Transfer Technique (IUT) different from it? [All India 2010]

Ans. ZIFT (Zygote Intra Fallopian Transfer) is the technique in which zygote or early embryo with upto 8 blastomeres is transferred into the Fallopian tube of female.

Whereas in IUT, embryo with more than 8 blastomeres is transferred into the uterus.

4. (i) Give any two reasons for infertility among young couple.



(ii) Test-tube baby programme is a boon to such couples. Explain the steps followed in the procedures. [All India 2010 c]

Ans.(i) The reasons of infertility in young people can be physical, congenital diseases, use of drugs, immunological or even psychological. " i

(ii) In test-tube programme

- Ova from the wife or a donor female and the sperms from the husband or a donor male is allowed to fuse under simulated conditions in the laboratory. It is called in vitro
- Embryo is then transferred into the uterus or fallopian tube for further development.

The process of embryo transfer is done in following ways:

Zygote or embryo up to 8 blastomeres is transferred into Fallopian tube (ZIFT).

Embryo with more than 8 blastomeres is transferred into uterus (IUT).

3 Marks Questions

5.A couple where both husband and wife are producing functional gametes, but the wife is still unable to conceive, is seeking medical aid. Describe any one method that you can suggest to this couple to become happy parents. [All India 2014]

Ans. In case, if both husband and wife are producing functional gametes but wife is not able to conceive, the IVF technique can be best employed to bless them with child.

Method of In vitro fertilisation:

(i) Gametes from both husband and wife are collected, i.e. sperm and ova and fused to form zygote under laboratory conditions. As fertilisation takes place outside the female body, it is referred to as in vitro fertilisation.

(ii) The zygote or embryo is then either transferred to Fallopian tubes (if up to 8 blastomeres), i.e. ZIFT ' or to the uterus (more than 8 blastomeres), i.e. IUT.

6.Explain any two methods of Assisted Reproductive Technology (ART) that has helped childless couples to bear children. [All India 2008 C]

Ans.The two methods of ARTs (Assisted Reproductive Technologies) that has helped childless couples to bear children:

(i) **Test-tube baby programme** .

In test-tube programme

- Ova from the wife or a donor female and the sperms from the husband or a donor male is allowed to fuse under simulated conditions in the laboratory. It is called in vitro
- Embryo is then transferred into the uterus or fallopian tube for further development.

The process of embryo transfer is done in following ways:

Zygote or embryo up to 8 blastomeres is transferred into Fallopian tube (ZIFT).

Embryo with more than 8 blastomeres is transferred into uterus (IUT).

(ii) **ICSI** It is carried but by directly injecting sperm into the ovum to form an embryo in the laboratory.

Embryo transfer is done later on.

5 Marks Question

7.How are assisted reproductive technologies helpful to humans? How are ZIFT and GIFT different from intra uterine transfers? Expla[Foreign 2009]

Ans.ARTs (Assisted Reproductive Technologies) are helpful to humans as they enable the infertile couple to have children. The ART techniques ZIFT and GIFT are different because **ZIFT** (Zygote Intra Fallopian Transfer) is related to embryo transfer in the test-tube



programme.

In this technique, the zygote or embryo up to 8 blastomeres is transferred into the Fallopian tube. **GIFT** (Gamete Intra Fallopian Transfer) is the technique in which ovum collected from a donor female is transferred into the Fallopian tube of another female, who cannot produce an ovum, but can provide suitable conditions for fertilisation and further development.

Whereas, **IUT** (Intra Uterine Transfer) is the technique in which embryo of more than 8 blastomeres are transferred into the uterus.

