

Impotence & Sterility:

ISHITA
KANODIA

Impotence: inability of a person to perform sexual intercourse.

Sterility: inability of the male to beget children

inability of the female to conceive children

Frigidity: inability to initiate or maintain sexual arousal pattern in female.

Premature ejaculation: ejaculation which occurs immediately before or immediately after penetration

Sexual dysfunction: impairment either in the desire for sexual gratification or in the ability to achieve it.

Examination: should be undertaken only when asked by the Court or Police.

→ complete history of previous illness & sexual history should be obtained

- Habits: smoking, alcohol, drugs
- Diabetes (complicated by peripheral neuropathy)
- Trauma, head injury, spinal injury
- Venereal diseases (syphilis → affects posterior column of spinal cord → Impotence)
- Hypertension
- Occupation
- Sexual development, marital status, sexual deviation

→ Penis is supplied by nerves from 2nd, 3rd, 4th sacral segments through pudendal nerve & pelvic plexus.

→ Glans penis → supplied by dorsal nerves (sensory) which are branches of pudendal nerve.

→ Erectile function → parasympathetic (excitatory) → Eryngentes nerve

→ sympathetic (inhibitory) → Thoracolumbar plexus.

→ length of flaccid penis: 8.5 - 10.5 cm length of erect penis: 15 cm

→ diameter of penis: 3-5 cm

Bulboconvervous reflex test: Squeezing of the glans \longrightarrow immediate contraction of anus
(in case of adequate nerve sensation in penis)

Opinion: (given in the negative form) \Rightarrow from the examination of the person, there is nothing to suggest that person is incapable of performing sexual intercourse.

Causes of Impotence & Sterility in Male:

(1) Age: power of erection & coitus may be present at a much earlier age than puberty.
 → development of private parts is a more reliable factor than age of the person.
 → spermatozoa are usually not found in semen before puberty, but may be found in the semen of very old men.

(2) Defects of Development & Acquired Abnormalities:

- Absence of penis excludes coitus
- non-development of penis may prevent sexual act.
- Malformations (intersexuality, hypospadias, epispadias) may prevent intercourse / seminal fluid may not reach the vagina even if intercourse is possible.
- Double penis & penis adherent to scrotum \Rightarrow difficulty in sexual intercourse
- Loss of both testis \Rightarrow complete sterility

If testes are removed before puberty, impotence is the rule. If testes are removed after puberty, potency is retained.

(3) Local Diseases:

- Large hernias
- Elephantiasis
- Large hydrocele
- Phimosis, paraphimosis
- Adherent prepuce
- Gonorrhoea
- Sores on glans

} temporary
impotence

- Tuberculosis, syphilis, cancer, sarcoma, trauma \Rightarrow Impotence or sterility or both
- Injury to sacral segments of spinal cord, brain damage, bilateral lumbar sympathectomy, spina bifida, injury/tumors of cauda equina \Rightarrow Impotence

(4) General diseases:

- Temporary impotence: • diabetes • pulmonary TB • chronic hepatitis
- excessive masturbation
- hemiplegia, paraplegia
syringomyelia
disseminated sclerosis } may cause impotence
- Alcoholism
- Anabolic steroids
Heroin, cannabis } can cause erectile dysfunction
- Occupation exposure to lead may lead to sterility.
- Ateriogenic impotence (reduced blood flow to penis) \Rightarrow diabetes, hypertension, pelvic & genital injuries.

(5) Psychic Causes: Emotional disturbance \Rightarrow temporary impotence

- fear of impotence / fear of inability to complete the act (first night impotence in bridegroom)
- disgust of sexual act / dislike of partner
- Quad hoc is an individual who may be impotent with one particular woman but not with others

Diagnostic Procedure To Test Erectile Capability:

- papaverine is injected i.v. \longrightarrow vascular changes similar to those after stimulation of cavernous nerves \longrightarrow \uparrow arterial flow, \downarrow venous flow, sinusoidal relaxation \longrightarrow duplex USG / Pudendal arteriography / cavernosonography

Causes of Impotence & Sterility in Female:

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1] Age: age has no effect on potency in females

→ a woman is usually fertile from puberty (menarche) to menopause

2] Developmental Deferts & Acquired Abnormalities:

→ absence of vagina: in malformed females, Turner type intersexuals

→ total occlusion of vagina, adhesion of labia, tough imperforate hymen → impotence

→ vaginal injury, severe infection may lead to stucture

→ Conical cervix, absence of uterus/ovaries/Fallopian tubes → sterility.

(3) Lond diseases: Gonorrhoea involving cervix, uterus, ovaries, Fallopian tubes → sterility

→ Hyperaesthesia of vagina

prolapse of uterus/bladder

vulval or vaginal tumours

Elephantiasis

} temporary impotence

4] General diseases: general diseases do not impotence in females since the woman is the passive agent in the sexual act.

5] Psychic Causes: psychic factors in females produces vaginismus

Vaginismus: spasmodic contraction of the vagina due to hyperaesthesia (classical example of psychosomatic illness)

→ muscle groups contract spastically, instead of their rhythmic contractual response to orgasmic experience.

→ accompanied by hysterical hyperaesthesia

→ any attempt at intercourse causes painful reflex spasm of levator ani, perineal muscles, adductor muscles of thigh & erector spinal muscles

→ constriction of vaginal outlet is so severe that penetration by penis is impossible.

Aetiology: i) male sexual dysfunction causing frustration of the female

ii) severe control of social conduct due to religious orthodoxy.

- iii) prior sexual trauma
- iv) secondary to dyspareunia
- v) general feeling of disgust at the idea of coitus.

Sterilisation: procedure to make a male or female person sterile, without any interference with potency.

Types:

1] Compulsory: performed on a person by an order of the state.

→ not done in India

2] Voluntary: performed on married persons with consent of both the partners

→ It may be — therapeutic — eugenic — contraceptive

a) Therapeutic: to prevent danger to life/ health of a woman due to a future pregnancy.

b) Eugenic: to prevent the conception of children who are likely to be physically/ mentally defective (to improve the race)

c) Contraceptive: for family planning.

Methods:

— surgical	— chemical
— radiological	— mechanical

Guiding Principles: (To avoid legal complications)

→ written consent of both wife & husband should be obtained for contraceptive sterilization

→ not unlawful if performed on therapeutic or eugenic grounds after obtaining valid consent.

→ person should be advised to abstain from sexual intercourse for about 3 months after vasectomy or until seminal examination shows absence of spermatozoa on 2 successive occasions.

Artificial Insemination: artificial introduction of semen into vagina/ cervix/ uterus to produce pregnancy

Types:

- 1] Artificial Insemination Homologous/ Husband [A.I.H.]: semen of husband is used
- 2] Artificial Insemination Donor [A.I.D.]: semen of some other person other than the husband is used
- 3] Artificial Insemination Homologous & Donor [A.I.H.D.]: Pooled donor semen \Rightarrow donor semen to which semen from husband has been added.

Biological Aspects: Semen is obtained by masturbation \rightarrow 1 ml is deposited

by means of a syringe in/near cervix.

\rightarrow ovum can survive in fertilized form only for 24 hours

\rightarrow ovum can survive in fertilized form for 8-12 hours after it leaves the ovary

\rightarrow time taken by sperms to travel from vagina to tubes is: 6-24 hours.

\rightarrow power of sperms to fertilize is retained for about 48 hours.

Indications:

- 1] When male partner is impotent
- 2] When male partner is unable to deposit semen in vagina
- 3] When male partner is sterile
- 4] When there is Rh incompatibility between the husband & wife
- 5] When the male partner is suffering from hereditary disease.

Precautions & Criteria:

- 1] Consent of donor & his wife is essential
- 2] Identity of the donor must be a secret
- 3] Donor should not know to whom the semen is donated & the result of insemination.
- 4] Donor must be mentally & physically healthy & should not be suffering from any hereditary/familial disease (screen for genetic defects)

- 5] Donor should not be related to either spouse & he should have had his own children.
- 6] Race & characteristics of donor must resemble those of husband of the women as closely as possible
- 7] Donor should be of same blood group as husband
- 8] There should be no Rh incompatibility between donor & recipient.
- 9] Couple should be psychologically fit & emotionally stable.
- 10] Witness must be present when insemination is done
- 11] Women to be inseminated & her husband must give written consent that an unknown donor should be used.

Legal Problems: (of A.I.D. as applicable to India)

- 1] Adultery: donor & recipient cannot be held guilty of adultery in India (∴ s. 497 I.P.C. requires sexual intercourse as a necessary part of adultery)
- 2] Legitimacy: Husband is not the actual father of the child ∴ child is illegitimate → child cannot inherit property
- 3] Nullity of Marriage & Divorce: impotence of husband is a ground for nullity / divorce (even if a child was born out of artificial insemination)
→ If artificial insemination is done without consent of the husband, he can sue his wife for divorce & the doctor for damages.
- 4] Unmarried Woman or Widow: may have children from artificial insemination (but such children would be illegitimate)
- 5] Incest: there is risk of incest between the children born by artificial insemination & the children of the donor, but this is not an offence in India.

Surrogate Motherhood: Surrogate mother is a woman who by contract agrees to bear a child for someone else

- Intended to help a couple of whom the woman is infertile, but the male has no reproductive deficiency
- Artificial insemination with the semen of the barren woman's husband is carried out in a hired woman (womb leasing) or a mature healthy ovum from the the wife is removed & fertilised *in vitro* with the husband's semen, & the embryo is implanted in the womb of a hired woman.
- After surrogate birth, the baby is returned to its biological father & his wife.
- According to ICMR, genetic/ biological parents' names only should be mentioned in the birth certificate.
- legal problems of surrogate motherhood are those of artificial insemination.