

Impotence & Sterility:

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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 (tertiary syphilis → affects posterior column of spinal cord)
- Hypertension → impotence)
- 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) → Sigmoid 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

Bulbocavernosus 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.

\rightarrow development of private parts is a more reliable factor than age of the person.

\rightarrow 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:

\rightarrow Absence of penis excludes coitus

\rightarrow non-development of penis may prevent sexual act.

\rightarrow Malformations (intersexuality, hypospadias, epispadias) may prevent intercourse / seminal fluid may not reach the vagina even if intercourse is possible.

\rightarrow Double penis & penis adherent to scrotum \Rightarrow difficulty in sexual intercourse

\rightarrow 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

\rightarrow Tuberculosis, syphilis, cancer, sarcoma, trauma \Rightarrow Impotence or sterility or both

\rightarrow 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 nephritis
- excessive masturbation } may cause impotence
- hemiplegia, paraplegia
- syngomyelia
- disseminated sclerosis
- Alcoholism } can cause erectile dysfunction
- Anabolic steroids
- Heroin, cannabis
- Occupation exposure to lead may lead to sterility.
- Atherosogenic impotence (reduced blood flow to penis) ⇒ diabetes, hypertension, pelvic & genital injuries.

(5) Psychic Causes: Emotional disturbance ⇒ 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. → vascular changes similar to those after stimulation of cavernous nerves → ↑ arterial flow, ↓ venous flow, sinusoidal relaxation → 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 Defects & 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 stricture

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

(3) Local 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: spasmotic 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 \longrightarrow 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 (\because 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 \therefore child is illegitimate \rightarrow 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)
 \rightarrow 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 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.