

IMPOTENCE, STERILITY & ARTIFICIAL INSEMINATION

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IMPOTENCY AND STERILITY

IMPOTENCY: This means inability to perform or take part in sexual intercourse.

STERILITY: This means inability on the part of the male to procreate or on the part of the female to conceive children.

FRIGIDITY: Refers to the women who are sexually cold i.e. inability to initiate or maintain the sexual arousal pattern in female.

PREMATURE EJACULATION: Means ejaculation occurs immediately after penetration.

SEXUAL DYSFUNCTION: Is an impairment either in desire for sexual gratification in ability to achieve it. In the act of sexual intercourse, the male partner is the active partner while the female partner is the passive partner. It is the male who has to develop and maintain penile erection sufficient enough to accomplish the act. Therefore in general impotence refers to male and sterility to females.

MEDICO LEGAL IMPORTANCE OF IMPOTENCE AND STERILITY:

CIVIL-:

- ❖ Nullity of Marriage and Divorce.
- ❖ Adultery.
- ❖ Contested paternity & legitimacy.
- ❖ Suit for adoption where the allegedly father pleads impotency or sterility as his defense.
- ❖ Claim for damages where loss of the sexual function is claimed as the result of assault or accident.

CRIMINAL-:

- ❖ Adultery.
- ❖ Rape.
- ❖ Un natural sexual offences.
- ❖ In case where a sterile women puts forward suppositious child to claim property.

EXAMINATION IN CASE OF IMPOTENCY

Before examination, **informed consent** is obtained. The following things are done,

- ❖ Complete history of previous illness especially with reference to nervous and mental condition and sexual history should be obtained.
- ❖ The general examination followed by systemic examination should be done.
- ❖ The private parts must be examined for injuries or malformations.
- ❖ The condition of testis, epididymis, cord and penis should be noted and private parts tested for sensation.
- ❖ Other Examinations such as DUPLEX USG, Chemical sensation and Ateriography are also done for examining Impotency.

EXAMINATION IN CASE OF STERILITY-: (MALE)

- ❖ For this examination of seminal fluid and spermatozoa is essential, semen may be obtained either through the act of masturbation.
- ❖ The sample of semen should be obtained as early as possible.
- ❖ The individual to be examined should not do the sexual act for about a week or so before examination.
- ❖ Normal avg sperm count is 100 million/ml and when it falls down below 60 million/ml it is called abnormal. This is impaired in sterility.

FEMALE: The development of ovaries, uterus, potency of Fallopian tubes and PH of vagina should be examined.

CAUSES OF IMPOTENCY AND STERILITY IN MALE:

- ❖ **AGE:** The power of coitus commences earlier than puberty though spermatozoa are not usually found then. Accordingly, a boy is sterile but not impotent before puberty.
- ❖ **MALFORMATION:-** Absence of non development of penis constitutes absolute impotence. Certain malformation of male external genital such as intersexuality may prevent intercourse. Condition like hypospadias and epispadias may prevent proper deposition of semen in vagina & result in sterility.
- ❖ **LOCAL & GENERAL DISEASES:-** Acute diseases of the penis ,such as gonorrhoea ,syphilis etc. may cause temporary impotence. Large hernia, elephantiasis or large hydrocele may impose a mechanical obstacle to coitus and produce temporary impotence. Diseases may result in sterility include mumps, testicular atrophy, diseases of testes, epididymis.

❖ **INJURIES AND ADDICTIONS:**-Injury to head, spinal cord, cauda equina may result in impotence. Chronic alcoholism & addiction to narcotics like opium cause impotence. Injuries to testicles will in time cause sterility. Exposure to X-RAYS, without proper protection, may lead to sterility.

❖ **PSYCHIC CAUSES:**-Cases of impotence in male from psychological causes greatly outnumber all other causes except at the extremes of life. Fear of impotence or fear of inability to complete the act may also cause temporary impotence but soon is overcome. E.g.-First night impotence Emotional disturbance Hypochondriacs Timidity

❖ **OPERATIONS:**-Partial or complete amputation of the penis as a surgical treatment for certain conditions of glans penis renders a male impotent. Vasectomy renders a male sterile but not impotent.

Lithotomy operations may sometimes cause sterility from injury to ejaculatory ducts. Specific cause as follows, Varicocele:- It is an abnormal dilation of veins within the spermatic cord. The effect of varicocele on testicular function appears to be the result in an increase in local rise of temperature. Endocrine disorders :- although rare, infertility in males may be due to certain endocrine disorders. These are usually treatable. Impotency associated with hyperprolactinemia is readily treatable.

❖ **Infections and male infertility:** - Acute and chronic genital tract infections are well-known causes of infertility in men. Episodes of acute orchitis or epididymitis may result in permanent damage to the testis or to obstruction in the efferent ejaculatory ducts. C.trachomatis causes approximately 50% of epididymitis in sexually active men under age 35.

Unilateral epididymal obstruction is seldom diagnosed, and its effect on fertility is largely unknown. However, 80% of men with unilateral ductal obstruction have antibodies to sperm, a potential cause of male infertility. Appropriate assessment of a semen sample including tests like presence of seminal Fructose, neutral alpha glycosidase and pH go a long way in differentiating between obstructive and non-obstructive azoospermia. Orchitis- mumps, tuberculosis, syphilis, pancreatitis Epididymitis - gonorrhea, tuberculosis, Chlamydia, urea plasmas, Pseudomonas, coli form, and other bacterial infections. Seminal vesiculitis - tuberculosis, trichomoniasis, other bacteria Urethritis - gonorrhea, Chlamydia, urea plasmas.

❖ **OBESITY AND MALE INFERTILITY:** - The relationship between male infertility and obesity has more concrete evidence than solely studies showing reduced fecundity among couples, one of whom is an obese male.

CAUSES OF IMPOTENCY & STERILITY IN FEMALE :-

- ❖ **AGE** :- Women is the passive agent in sexual act, there can be no limit to the oldest age at which she should be potent to allow the act. Menstruation is not a sign of bodily maturity but in most cases , it is merely a sign of puberty and ovulation. As a rule, fertility ceases at menopause with the cessation of menstruation though an occasional exception may occur. After menopause the women will be sterile but not impotent.
- ❖ **MALFORMATION** :- Absence of vagina or one which is rudimentary in character is often found in cases of inter sexuality and is the cause of permanent impotence in female. The conical cervix & absence of the uterus , ovaries or fallopian tubes produce sterility but not impotency.

❖ **LOCAL & GENERAL DISEASES** :- Local diseases of the genital organs in female do not ordinarily produce impotency provided the vagina is normal. E g.- Gonorrhoea involving the cervix, uterus, ovaries , and fallopian tubes , vaginal tumors produce temporary impotence. Diseases of ovaries, rupture of perineum may cause sterility.

❖ **INJURIES & ADDICTION** :- As in male, occupational exposure to lead , or exposure to X-Rays without proper protection may lead to temporary or permanent sterility. Chronic alcoholism and abuse of narcotics such as opium may also lead to sterility.

❖ **PSYCHIC CAUSES** :-Whereas in men, the impotence resulting from psychological causes is passive leading to non erection, in women it is of an active nature leading to spasm of vagina. The condition may be caused by fear, disgust, or excessive inability of vaginal mucosa.

❖ **OPERATIONS**:- Ligature of both in fallopian tubes or any operation that disrupts the potency of both fallopian tubes results in sterility of the female but not impotence. The main causes as follows, Ovulatory Factors: - ovulatory disorders may be due to problems at no. of levels. Common causes of an ovulation are PCODs.

Adenoma of pituitary and certain other diseases of hypothalamus and pituitary are also associated with an ovulation disorder. Other endocrine systems are – thyroid, adrenal gland . Tubal factors: - the obstruction of the tube is usually a sequel to pelvic inflammatory disease. PID can also follow aseptic induced abortion or as a post-partum infection.

C.Trachomatis salpingitis can be seen in as many as 15% patients who undergo an induced abortion. Immunologic causes: - Anti-sperm antibodies if present either in female or male, can cause infertility. They act by preventing the binding of sperm to zona pellucida or by decreasing the sperm motility.

STERILISATION

- ❖ This is a procedure which renders a person sterile without any interference with potency. The purpose for which it is employed are-
- ❖ As a family planning measure.
- ❖ As a therapeutic measure, for the health of the mother To limit the additional strain of looking after a newborn *If the act of delivery poses a danger to her very existence.
- ❖ As a eugenic measure to prevent children with physical or mental defects being born.
- ❖ For convenience when done for any other purpose. Sterilisation in male is effected by vasectomy. The operation is simple after vasectomy, the patient is advised to refrain from intercourse for 2 months. Sterilisation in female is affected by tubectomy.
- ❖

Before Sterilising an individual-:

- ❖ A written consent of both husband and wife is essential.
- ❖ If for family planning measure restrict the operation to those who are over 30 years of age and had at least two children, one of them is a male.
- ❖ The surgeon should inform that there is no absolute guarantee of sterility after operation and the procedure may be irreversible.

Artificial Insemination

Artificial insemination (AI) may be defined as the deposition of semen in the vagina, the cervical canal, or the uterus by instruments to bring about pregnancy which is not attained or is unattainable by sexual intercourse. The seminal fluid used for this purpose may be either from the woman's husband or from the donor. This procedure is known as AIH (artificial insemination homologous) in the former and AID (artificial insemination donor or heterologous) in the latter. To prevent psychological and legal issues the husband's semen may be mixed with that of donor AIHD.

PROCEDURE

- ❖ One ml of semen is added by means of a sterile syringe, at or about the time of ovulation, i.e. 14th day after menstruation. The semen should be collected by masturbation, preferably after a week's abstinence, and used within about 2 hours.

PRECAUTIONS TO BE TAKEN BY A DOCTOR

No special precautions are necessary in cases where AIH is practiced. The following precautions are essential in cases where AID is practiced.

- ❖ The knowledge and full consent of both spouses are essential. The consent must be in writing.
- ❖ The identity of the donor and recipient must not be revealed to each other nor should the donor know the result of insemination.
- ❖ The donor must be below the age of 40, not related to either spouses, and should have children of his own. In race and characteristics, he must resemble as closely as possible the husband of the woman to be inseminated.

- ❖ The donor must be in robust health both physically and mentally. He should not be suffering from any hereditary or familial disease. The medical examination should exclude such diseases as tuberculosis ,diabetes, epilepsy, endocrine dysfunction and psychosis, and should include Wassermann reaction and Rh grouping.
- ❖ The donor must be screened for AIDS antibody initially at the time of donation and may be rested after three months. The semen should be frozen and not used until the result of the second test is known.
- ❖ The wife of the donor must agree for donating semen for the purpose of insemination and the semen should be obtained from an act of masturbation.
- ❖ A female nurse should be present when the insemination procedure is carried out.

❖ The doctor who administers AID should avoid delivering the child because he knows who the true father is but cannot give this information in birth record of child as it would amount to perjury on his part.

LEGAL ISSUES

- ❖ Danger of Litigation against doctor following birth of a defective child.
- ❖ The husband is not the biological father and by adoption the legitimate status can be obtained.
- ❖ The illegitimate child is not the rightful successor to father's property.
- ❖ Risk of incest and adultery.
- ❖ Maintenance and custody of child in an event of divorce.

SURROGATE MOTHERHOOD

- ❖ Surrogate motherhood is a scientific freak between the process of re-implanting (test-tube baby) and adoption. In this process the in vitro fertilized ovum is implanted in the hired uterus of another woman or another woman's ovum is fertilized with the sperm of the barren woman's husband. The resultant infant is passed on to its biological father and his wife at birth. The procedure raises many legal, ethical and social problems.