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### CHAPTER



## History Taking for an Infertile Couple

Damodar

#### **EPIDEMIOLOGICAL FACTORS**

#### **Historical Clues**

A detailed history is the first step for evaluation of fertility in a couple. Although it is recommended to investigate, if couples fail to achieve a successful pregnancy after 12 months of regular unprotected intercourse or after 6 months for couples with the female partner age more than 35 years old, with the rise in concept of preconception care, any couple seeking fertility may be evaluated for fertility potential.

#### The relevant reproductive history should include:

- A. *Coital frequency and timing:* Of late, it is not uncommon to see a couple who have not consummated their marriage. Coital frequency and difficulties encountered like dyspareunia, erectile dysfunction, premature ejaculation, inability to ejaculate in the vagina, etc. should be evaluated. In subfertile couples, instructions are usually given for intercourse every other day during the week surrounding ovulation.
- B. *Duration of infertility and previous fertility:* Duration of infertility influences the pace and extent of evaluation in infertile couples. Any couple who has not conceived in 1 year of unprotected intercourse requires evaluation or even earlier if either of the couple has a known reproductive cause leading to infertility. Previous fertility does not exclude the possibility of newly acquired secondary male and female infertility factor. The success rate of any fertility treatment is inversely proportional to the duration of infertility.
- C. *Impact of age:* Age affects women more harshly than men. The risk of infertility increases with the growing age. Pregnancy before 30 years for women and 35 years for men has more chance of success.
- D. *Menstrual history:* Age at menarche, cycle length and characteristics, presence of molimina, and onset/severity of dysmenorrhea give us an insight into conditions like endometriosis, polycystic ovary syndrome (PCOS), luteal phase defect, etc.
- E. *Previous methods of contraception:* Conception rates are reduced during the first 2 months after stopping oral contraceptive pills, and the median delay prior to conception is approximately 3 months. This delay is shorter for nulligravid women. Most women (94.3) become pregnant within 2 years of stopping the pill. History of infection post Cu-T use may rise concerns of pelvic inflammatory disease.
- F. *Childhood illness and developmental history:* Undescended testicles, varicoceles, mumps hernia, accidental damage, serious illness or surgery may affect male infertility. The reasons for male infertility include unusual characteristics of semen, reproductive infection and disorder, and erectile dysfunction or ejaculation disorder.
- G. *Medical and systemic illness:* Systemic illnesses such as diabetes mellitus, thyroid, epilepsy, and systemic lupus erythematosus (SLE) cause infertility and influence reproductive outcome. Testicular function and spermatogenesis especially sperm quality and sperm motility are affected in both type 1 and type 2 diabetic men. SLE affects multiple systems that affect fertility in men and women. Genital tract may be affected by cytotoxic treatment due to the disease activity. Fertility problems such as unsuccessful implantation are encountered.
- H. *Previous surgery*: History of pelvic or abdominal surgery, the route of surgery (laparotomy/laparoscopy), and site of surgery (ovary/uterus/vagina) influence current reproductive status. The incidence of injury to vas deferens during inguinal herniorrhaphy has been estimated to be 0.3% in adults, thus may contribute to infertility in some men. Literature shows that bilateral inguinal herniorrhaphies in female children also have had the consequence of accidental tubal ligation that had led to infertility in future.
- Medications and allergies: The patient's medical history can identify risk factors and behaviors of lifestyles that could have significant impact on male infertility. The medical history should include—(1) complete review of systems and (2) family reproductive history. Drugs such as antivertigo agents tend to cause dryness of mouth and therefore are

likely to affect cervical mucus also. Drugs affecting male infertility include those used to treat ulcers or gout, which interfere with sperm production; some antidepressants which may cause erection difficulties; beta blockers used to control blood pressure cause impotence and decreased sperm counts and motility.

- J. *Exposure to gonad toxins:* Any past or current use of anabolic steroids, recreational drugs, tobacco and alcohol including environmental and chemical toxins and heat. Cocaine and cannabis lower testosterone levels and lead to low sperm count and decrease sperm motility.
- K. *Impact of smoking and alcohol consumption:* Meta-analyses have shown that 40% of infertile men are smokers. In men who smoke and drink, the number and motility of sperms decrease; sperm permeability is reduced and the number of sperms with abnormal appearance increases reducing their ability to fertilize eggs. There are no safe levels for smoking and drinking in men planning for fertility.
- L. *Impact of cell phone and laptop use:* Mobile and laptop devices emit radiofrequency electromagnetic waves that can reduce sperm quality and disrupt the normal function of the body. Since testicles are shallow organs, these may absorb the radiant energy more than other organs. Oxidative stress (OS) is developed in testicles because cell phones cause free radicals in sperm. OS is a major cause of infertility in men.
- M. *Impact of immune responses:* Immunological factors play an important role in sexual problems such as recurrent miscarriage, infertility, and implantation failure. Natural killer (NK) cells play an important role in female sexual function. These cells are correlated with inductive failures such as NK cell cytotoxicity induced abortion or infertility.
- N. Sexual history and sexual violence: Untreated sexually transmitted infections (STIs) are among the factors that cause damage to the reproductive system of men and women. Chlamydia and gonorrhea are the most common STIs that lead to infertility in men and women. As chlamydia is asymptomatic, it is difficult to identify it earlier and treat. Trachoma can affect the sperm function. In vitro experiments show that *Chlamydia trachomatis* tyrosine phosphorylation affects sperm proteins, causes sperm premature death, and develops an apoptosis-like reaction in sperms which increases sperm surface fragmentation levels. Studies show that the *history of sexual violence* is associated with infertility. The psychological trauma caused by sexual violence leads to ovulation infertility or sexual dysfunction.
- O. *Obesity:* Researchers have found that obese women with high visceral fat have low chance of successful infertility treatment. In women with body mass index (BMI) more than 25 compared with BMI less than 25, the pregnancy rates were 10.5% and 25.3%, respectively. Some studies show that 30–70% of women with PCOS are obese.
- P. *Impact of stress and anxiety:* Stress adversely affects both male and female reproductive abilities. The anxiety may decrease the intimacy between partners and avoid the sexual behavior. Unmatched working schedules might also reduce sexual frequency between couples.
- Q. *Effects of nutrition:* A high saturated fat diet is associated with reduced sperm concentration. Severe calorie restriction, malnutrition, and vigorous exercise regimens in women are associated with reduced pregnancy rates.