

Ejaculatory Dysfunction—A Mini Review

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Abstract

For decades the field of male sexual dysfunction has remained controversial in terms of both diagnosis and management. There is a clear lack of rational, scientific and evidence-based practice in the field. Treatment remains arbitrary. This brief review tries to summarize concisely the etiology, diagnosis and management of the four categories of Ejaculatory dysfunction (EjD). This review also challenges the role of pharmacotherapy in the management of Ejaculatory dysfunction (EjD).

Keywords

Premature Ejaculation, Retrograde Ejaculation, Anejaculation

1. Introduction

A normal human sexual response cycle principally consists of four stages, namely desire followed by arousal, orgasm and then resolution. Orgasm is not a distinct phenomenon but rather occurs concomitantly with ejaculation. Ejaculation is a distinct cortical and emotional event. Erection on the other hand is primarily a spino-cerebral event. This would explain the occurrence of night emissions and ejaculations in sleep and ejaculation without adequate erection.

Although erectile dysfunction has become one of the most well publicized sexual problems, ejaculatory dysfunction (EjD) is the most prevalent of male sexual disorders. EjD is a major cause of considerable distress affecting men of all ages. EjD can also affect a man's fertility. In recent survey of 12,815 men between 50 to 80 years, 46% reported EjD occurring within the previous 4 weeks while 59% were troubled by it [1].

Ejaculatory dysfunction is classified into four main categories namely

- 1) Premature Ejaculation (PE),
- 2) Delayed Ejaculation (DE),
- 3) Retrograde Ejaculation (RE),

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4) Anejaculation (AE).

2. Physiology of Ejaculation

The ejaculatory process comprises of two main phases; namely emission and expulsion. Both these processes are mediated by somatic, sympathetic and parasympathetic fibers. During emission a peristaltic wave of contraction progresses through the seminal tract till the ejaculate reaches the posterior urethra [2]. Expulsion on the other hand is believed to be in part mediated by the sensory stimulus and pressure sensation exerted by the seminal fluid in the posterior urethra. Expulsion results in semen being forcefully advanced forward along with relaxation of the external urinary sphincter and associated bladder neck closure. Parallel to these events there is also contraction of the pelvic floor muscles [3]. Several clinical and experimental studies points to the existence of a spinal ejaculation centre; were the sympathetic, parasympathetic and sacral fibers integrate to allow a coordinated output of signals to various muscles of the pelvis and perineum during the ejaculatory reflex. The control mechanism is however at the supra-spinal level namely the stria terminalis, amygdale and preoptic nucleus of the thalamus [4] [5]. The brain is the final seat of output control of all ejaculatory stimuli. A key neurotransmitter involved in several areas of the neuraxis keeping the ejaculation inhibited has been identified to be 5 HT [6].

3. Stages of Normal Antegrade Ejaculation

Emission	T10-L3 level; mediates the sympathetic spinal cord reflex Erotic stimuli from cerebrum and stimulus from genitals Peristaltic contractions of the epididymis, vas, seminal vesicles and prostate Posterior urethra accumulates the expelled semen/spermatozoa and prostatic fluid
Ejection	S2-S4 level; voluntary control over this phase is limited Contractions of the pelvic floor muscles Bladder neck closes and the external urinary sphincter relaxes
Orgasm	Pressure in the posterior urethra waxes and wanes Smooth muscle contractions of the urethral bulb and accessory sex organs takes place Pleasurable sensation felt is due to cerebral processing of the stimuli originating from the pudendal nerve

4. Premature Ejaculation (PE)

Etiology-premature ejaculation is the most common EjD. PE affects approximately 5% - 40% of sexually active men [7]. No accepted global consensus has been agreed upon for the correct definition of the disorder. The European association of urology currently defines PE as the inability to control ejaculation for a “sufficient” length of time before vaginal penetration. PE as per the DSM-4 (diagnostic and statistical manual of mental disorders-4) is defined as recurrent ejaculation with minimal sexual stimulation before, upon or shortly after penetration and before the person wishes it, and also causing marked distress for the man or couple [8].

The exact etiology of PE is yet unknown. Possible pathologies associated with PE could be psychogenic (guilty feelings about sex, sex is sinful, religious beliefs), associated chronic prostatitis (56% of men with PE have associated prostatitis) and acquired central serotonergic hyosensitivity [9] [10]. PE is also associated with concomitant Erectile Dysfunction (ED). Of the total of 72 cases of sexual dysfunction that presented to our department between February 2014-January 2014, we had two patients presenting with PE and concomitant ED.

Diagnosis and Management-Current Guidelines by the American Association of Urologists recommend only sexual history taking to establish a diagnosis of PE, due to absence of validated tools. Selective serotonin reuptake inhibitors have been used in the off-label treatment of PE. However, majority of the trials investigating the effectiveness of SSRI were found to lack a proper design. As of date, the American Association of Urology does not recommend the use of SSRI in view of potential adverse effects associated with the long term utilization of these agents [11]. Other treatment techniques for PE include psychosexual counseling, behavioral training techniques like the stop start technique and squeeze-pinch method. While short-term success rate with these techniques appear good; larger trials are required for establishing the long-term efficacy [12].

5. Delayed Ejaculation (DE)

Etiology: No clear-cut definition of delayed ejaculation is currently available. Delayed ejaculation or retarded

ejaculation are among the least studied and least well understood of ejaculatory disorders [13]. Delayed ejaculation can be defined as an ejaculatory disorder that results from increased latency to complete absence of ejaculation (Anejaculation). A diagnosis of DE can be assumed if the male partner is unable to ejaculate and ceases to complete the intercourse due to exhaustion or due to irritation and the couple presents to the clinic to seek help for the problem. Men with DE usually are capable of sustaining their erections; but report low level of arousal. Apart from psychogenic causes other common causes of DE include transurethral resection of prostrate, bladder neck surgeries, diabetic autonomic neuropathy, hypogonadism, use of SSRI's and Tricyclic anti-depressants [14].

Diagnosis and Management-Diagnosis is by in depth history taking, physical examination, and details about the patient's sexual response cycle. Currently there is no evidence to suggest the use of pharmacotherapy in the management of DE. Psychotherapy and patient counseling is recommended. Nevertheless, the evidence of effectiveness of various treatment strategies in the treatment of DE is limited [15].

6. Anejaculation (AE) & Retrograde Ejaculation (RE)

Etiology—the commonest cause of orgasmic Anejaculation is retrograde ejaculation (RE). In retrograde ejaculation (RE), the ejaculate instead of moving antegrade goes back into the bladder. About 41% of men report RE after transurethral resection of the prostate [16]. Other common causes of Anejaculation (AE) and Retrograde ejaculation (RE) include diabetes mellitus, spinal cord injuries, alpha-1-adrenoreceptor antagonist, psychotropic medications bladder neck surgery, trauma or injury to the sympathetic and para-sympathetic nervous system and RPLND (retroperitoneal lymph node dissection). A diagnosis of psychogenic AE should be a diagnosis of exclusion only after ruling out other organic causes. Psychogenic AE is usually associated with anhedonia [16].

Diagnosis and management—examining the post coital urine for spermatozoa or fructose would establish the diagnosis of retrograde ejaculation (RE) in men presenting with Anejaculation or low volume ejaculates. Sperm harvested from the post coital urine can be resuspended in appropriate culture media and then be used for insemination [17] [18].

For patients presenting with global Anejaculation and anorgasmia; the use of penile vibrostimulation (PVS) can be advocated. Where PVS fails, electroejaculation may be useful in some men to achieve ejaculation. However, for all assisted ejaculation procedures the ejaculatory reflex arc should be intact [17]. Where assisted ejaculation procedures fail, sperm retrieval from the testis may be the last option.

7. Conclusion

Ejaculatory dysfunction is far more common than other sexual disorders maybe because of the subjective nature of the condition. The infertility associated with these conditions may be effectively treated using psychosexual counseling, cognitive behavioral therapy, assisted ejaculation and sperm retrieval from the testis. Medical therapy is only of limited value in the management of ejaculatory dysfunction.

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