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SHAFT

SEXUAL HEALTH & FERTILITY TREATMENTS

Newsletter by

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Om Ekam Eva Adviteeyam brahma |
Sannama roopa vivarjitham ||

Hello!

Ejaculation is a fascinating event closely tied to pleasure, often coinciding with orgasm. These parallel physiological processes are beautifully synchronized by the will of the One and Only Supreme Creator, serving two purposes: creating life (pregnancy) and fostering connection (emotional bonding).

This issue focuses on ejaculation disorders, including premature ejaculation, retarded or anejaculation, and retrograde ejaculation. Often, these issues can be addressed by understanding the patient's perspective on sexual pleasure and performance, enabling structured counselling for men or couples. However, execution is challenging, particularly in meeting patients' time-bound expectations for outcomes. In many cases, combining counselling with medication offers a holistic approach, delivering immediate and sustained results.

To enhance understanding, we feature expert commentaries and lecture links by **Dr. Rupin Shah** (Mumbai), **Dr. Gajanan Bhat** (Sirsi), and **Dr. Ege Can Şerefoğlu** (Istanbul). Drawing on decades of experience, they share insights into treating ejaculation disorders, covering non-pharmacological, pharmacological, and device-based approaches.

Join me in delving into the rich complexities of insights surrounding the treatment of ejaculation disorders.

We highly value your feedback and support in sharing this newsletter with your peers and community. Together, let's create a more open and informed dialogue around sexual health and fertility, and improve the well-being of individuals everywhere.

Best regards,
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Anejaculation: A Comprehensive Review

Incidence of Anejaculation

Anejaculation (AE) is a rare but significant condition in sexual medicine, characterized by the absence of ejaculation despite normal sexual arousal and orgasmic sensation. The incidence of AE varies based on etiology, patient demographics, and diagnostic criteria. In populations with spinal cord injuries (SCIs), AE is reported in 20-90% of men, depending on the level and severity of injury. Among men undergoing prostatectomy or pelvic surgery, AE occurs in 10-50% of cases. Psychological and idiopathic forms are less well documented but are believed to represent a smaller subset.

Patient Presentation

Patients with AE typically present with complaints of absent seminal emission during orgasm. They may report normal erectile function, libido, and the sensation of orgasm, distinguishing AE from anorgasmia. Fertility concerns are a common reason for seeking medical attention, particularly in younger men. Secondary symptoms may include frustration, reduced sexual satisfaction, and relationship stress. Clinicians must differentiate between complete AE and partial ejaculatory dysfunction, where some seminal emission occurs but is insufficient.

Differentiating Anejaculation from Retrograde and Retarded Ejaculation

Differentiating AE from retrograde ejaculation (RE) and retarded ejaculation (RTE) is crucial for accurate diagnosis and treatment:

1. **Retrograde Ejaculation (RE):**
    - RE is characterized by the redirection of semen into the bladder instead of expulsion through the urethra.
    - *Diagnostic Clue:* Post-ejaculatory urine analysis reveals sperm in the urine, which is absent in AE.
    - Common Causes: Diabetes, medications affecting the bladder neck (e.g., alpha-blockers), and surgeries like transurethral resection of the prostate (TURP).

2. **Retarded Ejaculation (RTE):**
    - RTE involves a delay in ejaculation despite prolonged sexual stimulation, often with eventual ejaculation.
    - *Diagnostic Clue:* Patients with RTE may eventually ejaculate, whereas those with AE do not. If they provide an history of masturbatory ejaculation, then its due to their habit of masturbation: Frequent-habitual masturbator, prone masturbator or perverse masturbatory behaviours.
    - Common Causes: Psychological factors (masturbation), medications (e.g., SSRIs), and neurological conditions.
3. **Anejaculation (AE):**
    - AE involves the complete absence of ejaculation, with or without orgasmic sensation.
    - Diagnostic Clue: Absence of both antegrade and retrograde ejaculate, confirmed by seminal fluid analysis and post-ejaculatory urine analysis.

Accurate history-taking and targeted investigations are essential to distinguish these conditions and guide appropriate management.

Pathology and Pathogenesis

Anejaculation is primarily a dysfunction of the neuro-muscular and autonomic pathways involved in ejaculation. Ejaculation is a complex, coordinated process involving: **(Refer the previous issue (Vol 3 Iss1) for elaborate explanation on the pathophysiology)**

1. **Emission**: Sympathetic nervous system-mediated transport of sperm and seminal fluid into the posterior urethra.
2. **Ejaculatory propulsion**: Rhythmic contraction of the pelvic floor and bulbospongiosus muscles propelling semen through the urethra.

In AE, disruption can occur at any level of these pathways, including:

- Neural dysfunction (e.g., spinal cord injuries, neuropathies)
- Pharmacological inhibition (e.g., alpha-blockers, antidepressants)
- Anatomical obstructions (e.g., fibrosis, surgical damage)

Etiology

The etiology of AE is multifactorial and can be classified into organic, psychogenic, and idiopathic causes.

1. **Organic Causes**:
    - **Neurological Disorders**: Spinal cord injuries, multiple sclerosis, and diabetic neuropathy can impair the autonomic and somatic pathways required for ejaculation.
    - **Surgical and Traumatic Injuries**: Retroperitoneal lymph node dissection, radical prostatectomy, and pelvic surgeries often disrupt ejaculatory nerves.
    - **Medications**: Selective serotonin reuptake inhibitors (SSRIs), antipsychotics, and alpha-blockers are common culprits.
    - **Endocrine Disorders**: Hypogonadism and hyperprolactinemia may contribute to AE by disrupting the hormonal milieu essential for normal sexual function.
2. **Psychogenic Causes**:
    - Psychological stress, performance anxiety, and relationship issues can result in functional AE.
    - Past trauma or abuse may also contribute.
3. **Idiopathic AE**:
    - In some cases, no identifiable cause is found despite thorough evaluation.

Impact on Fertility and Sexual Function

Anejaculation significantly affects both fertility and sexual well-being. Men with AE often face challenges with natural conception, as the absence of ejaculate prevents sperm delivery. This condition is a leading indication for assisted reproductive techniques, such as sperm retrieval and (IVF).

In terms of sexual function, AE can diminish sexual satisfaction, lower self-esteem, and lead to psychological distress. Partners may also experience reduced intimacy, exacerbating relational tensions. Addressing both the physiological and psychosocial aspects is crucial in managing AE.

Diagnostic Evaluation

The diagnostic approach includes a detailed history, physical examination, and targeted investigations:

1. **History**:
    - Onset and duration of symptoms
    - Associated conditions (e.g., diabetes, surgeries, medication use)
    - Sexual and fertility history
2. **Physical Examination**:
    - Genital and rectal examination to assess for anatomical abnormalities
    - Neurological examination focusing on autonomic and somatic pathways
3. **Laboratory and Imaging Studies**:
    - Hormonal assays: Testosterone, prolactin, and thyroid function tests
    - Seminal fluid analysis to confirm absence of sperms followed by post-ejaculatory urine analysis to exclude retrograde ejaculation (where sperms are present in the urine sample)
    - Imaging: Pelvic ultrasound or MRI for obstructive causes

Treatment

Treatment of AE is individualized, addressing the underlying etiology and patient-specific needs. It can be broadly categorized into pharmacological and non-pharmacological approaches.

Pharmacological Treatments

1. **Sympathomimetic Agents**:
    - Drugs such as pseudoephedrine, ephedrine, and midodrine stimulate the sympathetic nervous system, facilitating emission.
    - Dosage: Pseudoephedrine (30-60 mg orally) taken 30 minutes before sexual activity.

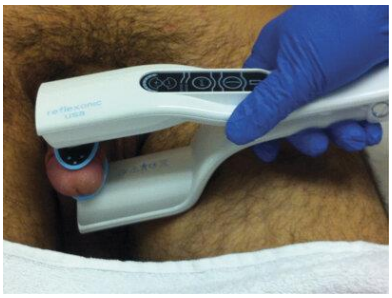
2. **Dopaminergic Agonists**:
    - Bromocriptine or cabergoline may be beneficial in hyperprolactinemia-related AE by normalizing prolactin levels.
3. **Cholinergic Modulators**:
    - Bethanechol has been used experimentally to enhance detrusor and urethral contractions.
4. **Phosphodiesterase-5 (PDE5) Inhibitors**:
    - Although primarily used for erectile dysfunction, PDE5 inhibitors may enhance pelvic blood flow and indirectly benefit ejaculation.

Non-Pharmacological Treatments

1. **Behavioral Therapy and Counseling**:
    - Psychological counseling addresses underlying psychogenic factors.
    - Cognitive-behavioral therapy (CBT) can alleviate performance anxiety.
2. **Electroejaculation (EEJ)**:
    - EEJ involves applying electrical stimulation to the pelvic nerves, by inserting the probe through anus, commonly used in SCI patients.
    - It has high success rates in sperm retrieval for fertility purposes.
    - Many experts have abolished due to the reason that the sperm produced through this is of low quality which can lead to high failure rate in ART procedures and also burning of anal tissues. Apart from this it can increase heart rate and BP in SCI patients and can cause dysuria, UTI & pain. Also, general anaesthesia is given while applying.

Seager Model 14 electro-ejaculator with a rectal probe.

3. **Vibratory Stimulation**:
    - Penile vibratory stimulation (PVS) can induce reflex ejaculation in men with intact sacral reflexes, particularly SCI patients.



Viberect X3 produces high frequency vibration which increases the glandular sensitivity to produce ejaculation. Recently its been used for erectile dysfunction too.

4. **Assisted Reproductive Techniques**:
    - Testicular sperm extraction (TESE) or percutaneous epididymal sperm aspiration (PESA) provides sperm for IVF or intracytoplasmic sperm injection (ICSI).

Prognosis

The prognosis of AE depends on the underlying cause and treatment modality. Neurological and iatrogenic AE often require long-term management, whereas psychogenic forms may resolve with appropriate therapy. Fertility outcomes are generally favorable with assisted reproductive techniques.

Anejaculation: An Concise perspective from Dr.Rupin Shah

Anejaculation may be situational or total. Situational anejaculation is always psychological in origin while total anejaculation may be psychological (anorgasmic) or organic (orgasmic).

(a) *Situational anejaculation* - In this condition the man is usually able to ejaculate at home during intercourse, but has difficulty doing so on some occasions, especially when under pressure at the time of ovulation or in the clinic.

(b) *Anorgasmic anejaculation (psychological anejaculation)* - The man never reaches orgasm in the waking state (either by masturbation or by intercourse), and hence does not ejaculate. However, nocturnal emissions are usually present.

(c) *Orgasmic anejaculation (organic anejaculation)* - The man reaches and experiences orgasm but there is no antegrade ejaculate, either because there is failure of emission (due to an anatomical block or damage to the sympathetic nerves) or because there is retrograde ejaculation.

Treatment

Non-surgical sperm retrieval procedures are indicated when a man is unable to produce an antegrade ejaculate (anejaculation).

Situational anejaculation can usually be treated by vibrator stimulation of the penis, which will produce orgasm and ejaculation in 90% of men.

Anorgasmic anejaculation can also be treated by vibrator stimulation but with a lower success rate of around 60%. If vibrator therapy fails, electro-ejaculation can be performed; this will always succeed in men with situational or anorgasmic anejaculation since there is no physical defect. However, often the sperm quality obtained by electro-ejaculation is inferior to that obtained by natural ejaculation or by vibrator stimulation.

Neurogenic failure of emission (e.g. after spinal cord injury, diabetes or lumbar sympathectomy) can be treated by vibratory stimulation or electro-ejaculation. However, failure of emission due to an anatomical block (e.g. after genito-urinary tuberculosis) will need operative sperm retrieval.

Retrograde ejaculation due to diabetic neuropathy often responds to medical treatment with sympathomimetic drugs (ephedrine - 25 mg four times a day) in combination with anticholinergics (imipramine - 50 mg at night). When the bladder neck has been damaged by surgery or trauma then medical therapy will not help and sperm will have to be retrieved from the bladder after alkalinizing the urine.

Click the picture to listen to Dr.Rupin Shah's lecture on anejaculation at SHAFT 2023.

Conclusion

Anejaculation is a multifaceted condition requiring a multidisciplinary approach for effective management. Advances in diagnostic tools and therapeutic options have improved outcomes, particularly in the context of fertility. Further research into the pathophysiology and innovative treatments will continue to enhance care for affected individuals.

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