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Andrology Summary

Copious Pre-Ejaculation: Small Glands—Major Headaches

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Note: Postings to *Andrology* have been lightly edited before publication.

Pre-ejaculate is a clear mucoid fluid produced by accessory sex glands and expressed on sexual stimulation into the urethra. The organs that produce this fluid are Cowper glands, the glands of Littre, and possibly the glands of Morgagni. Pre-ejaculate volume may range in normal men from a few drops to more than 5 mL. Pre-ejaculate functions naturally as a chemical neutralizer to the urine's residual acidity in the urethra and thus provides the basic pH of the semen, allowing for safe passage of sperm (Chughtai et al, 2005).

Investigators have accumulated a significant body of knowledge about the chemical composition of pre-ejaculate and have compared sex gland secretions for different age groups. An abundance of researchers have studied the presence of human immunodeficiency (HIV) and other sexually transmitted diseases in the pre-ejaculate fluid. Reports in the literature also have discussed the presence or absence of sperm in the pre-ejaculate and whether or not it is safe to practice withdrawal (coitus interruptus) as a means of contraception. However, a relative paucity of research exists describing normal amounts of pre-ejaculate and the possible social-sexual consequences that excessive fluid might render. The majority of reports describing excessive pre-ejaculate include anecdotal evidence, personal communications, and speculation based on knowledge of the physiology of the reproductive system. Yet excessive pre-ejaculate is a documented fact, and several experts in the field recently discussed this problem.

Dr Jacob Rajfer posed the following question for discussion on *Andrology*:

> I have a healthy patient in his 40s who complained that he has copious amounts of "pre-

> ejaculation" to the point that he has to wear protection when he goes out on a date and gets aroused. I know this is a normal phenomenon, but obviously not to this degree. Any thoughts?

Dr Dana Ohl, citing evidence suggesting 5-α-reductase inhibition as a rational therapy, responded:

> We had a similar case of this exact problem. This young man would actually soak through his pants during kissing or other mild erotic stimulation, and this situation was quite embarrassing for him. We did a literature search and found some immunohistochemistry data that suggested that the bulbourethral glands were likely responsive to dihydrotestosterone (DHT) instead of testosterone. The man was placed on finasteride, with complete resolution of his symptoms.

Investigators report immunohistochemical markers, prostate-specific antigen (PSA) and prostate-specific acid phosphatase, in the accessory sex glands similar to those found in the prostate (Elgamal et al, 1994; Rui et al, 1986). The regulation of the glands' embryologic and postnatal development as well as their functions thus may be regulated by DHT (Chughtai et al, 2005; Raeside et al, 1997). A reasonable clinical hypothesis is that to attempt to gain control over the glands' secretions, clinicians may consider using 5-α-reductase inhibitors, cited here by Dr Ohl successfully.

Dr Steven Kaplan reported similar results using a 5-α-reductase inhibitor:

> There have been similar findings in 2 men in their 20s. Of interest, both were not sexually active. We used dutasteride for 6 months with resolution.

Dr Ibrahim Fahmy described the different anatomic sources for abundant pre-ejaculate:

> We frequently see this complaint among young unmarried men in our society. The majority have no regular sexual relations. This clear mucoid secretion is termed "prosemen" and is secreted by Cowper glands and the small submucosal glands of "Littre" during sexual excitation. This should be differentiated from another physiologic secretion called prostatorrhea. Prostatorrhea is an excess prostatic secretion that is associated with straining during urination or defecation. Both types do not require treatment, and the patient should be reassured. If the situation is embarrassing for him, he can use a small absorbent towel.

Bulbourethral and other accessory sex glands, while small in size, deserve special consideration in clinically assessing sexual function. In addition to mechanically lubricating the urethra, secretions of these glands facilitate the passage of sperm by creating an appropriate chemical environment in the urethra (Chughtai et al, 2005). These secretions also play a fundamental role in semen coagulation (Beil and Hart, 1973). Glycoproteins in the fluid serve as lubricant for the glans penis during intercourse, and they have immunodefensive properties (Chughtai et al, 2005). These glycoproteins also provide a neutralizing buffer in the vaginal vault prior to delivery of the semen into a chemically hostile environment. While not a particularly abundant source of PSA production, the glands may play a role in the specificity and sensitivity of PSA as a clinical assay, as investigators have demonstrated staining for PSA in Cowper glands (Elgamal et al, 1994; Rui et al, 1986). While the concentration of HIV in the pre-ejaculatory fluid is lower than that in the semen, presence of virus is still believed to be responsible for HIV transmission (Pudney et al, 1992).

Sperm is not usually found in any of the accessory sex glands; however, investigators have long

debated the presence of sperm in pre-ejaculatory fluid. Researchers have observed the presence of spermatozoa in pre-ejaculatory fluid and have advocated against the use of coitus interruptus as a safe means of contraception (Zukerman et al, 2003). Other authors favoring coitus interruptus argue against the presence of sperm in the expressed secretions, citing faulty methodology for fluid collection and ascribing reported pregnancies to late withdrawal (Rogow and Sonya, 1995). While infrequently reported, copious pre-ejaculation causes a great deal of social and physical distress. Based on the literature and reports of physicians on *Androlog*, clinicians may attempt a course of 5-α-reductase inhibitors for symptomatic management.

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