

The Urethrovaginal Gland, Amrita & Amritasis: Cultural and Medical Background

Vincent M. Riccardi*

The Neurofibromatosis Institute, 5415 Briggs Avenue, La Crescenta, CA, USA

*Corresponding author: Vincent M. Riccardi, MD, MBA, The Neurofibromatosis Institute 5415 Briggs Avenue, La Crescenta, CA 91214, Tel: 818-957-3508, E-mail: riccardi@medconsumer.com

Received Date: March 28, 2019 Accepted Date: May 02, 2019 Published Date: May 04, 2019

Citation: Vincent M. Riccardi (2019) The Urethrovaginal Gland, Amrita & Amritasis: Cultural and Medical Background. J Womens Health Gyn 6: 1-5.

Introduction

Modern women and girls have the unprecedented potential to determine how their gender and sexuality impinge on their lives. As a physician-geneticist and evolutionist, my initial impetus for this outlook was based upon two premises: first, the urethrovaginal gland and its secretion, amrita, are critical elements of being a female, human and otherwise; and, second, the robustness of urethrovaginal gland activity and its contribution to sexual satisfaction for both sexes can be enhanced and cultivated.

For human female sexual anatomy and sexual satisfaction to be understood completely, we must respect and take into account one specific tissue and its function, including its secretions. That tissue is generally known by either or all of five names: the “urethral sponge,” “female prostate,” “paraurethral gland,” “periurethral gland” and “Skene gland.” While there are many ways in which the male’s prostate and the urethrovaginal gland are similar or the same, the distinctive role of this tissue in the human female warrants a unique name, not simply the “female prostate.” Thus, except for verbatim quotations of previously published works, I restrict myself to the term, urethrovaginal gland.

During sexual activity the urethrovaginal gland emits its secretions into the urethrovaginal gland ducts or the urethra, which then expel the material onto, but “outside,” the body, sometimes forcefully and sometimes in large volume. This expulsion, technically designated as female ejaculation, and sometimes also called squirting, may precede or accompany orgasm and in either instance enhance the orgasm. More than one such ejaculation may occur during a sexual encounter. Webster’s New 20th Century Dictionary – Unabridged (2nd edition; 1983) provides two general definitions of the verb, ejaculate. First the Latin origin of the word is clarified: jacere, to throw, or jaculum, a missile combined with the prefix, e, meaning out. Thus, to ejaculate is “to eject or discharge (fluid) suddenly; or to utter suddenly and vehemently.” The word, amrita, designates the secreted fluid, i.e., the ejaculate. Amrita may be discharged through the urethra or separate ducts that bypass the urethra. However, in most settings, the term, “ejaculation,” has been co-opted to signify merely the expulsion of semen from the male’s penis. Moreover, emphasis on the urethrovaginal gland and amrita is not meant to discount the critical roles of other female pelvic and genital tissues – particularly the clitoris, vagina, urethra, perineum and pelvic floor muscles. I wish simply to ensure that the urethrovaginal gland is acknowledged for its major role in human female sexuality and human female sexual satisfaction.

Keywords: Urethrovaginal Gland; Prostate; Ejaculation; Lubrication; Sexuality; Amrita

Elaboration

In the simplest mechanical terms, sexual intercourse involves the outer surface of the erect penis rhythmically rubbing against the inner surface of the vagina. The friction from this rubbing eventually leads to a reflex discharge of semen from the penis into the vagina. While excess friction compromises or prevents this sequence of events, the optimal amount of friction is facilitated by moisture supplied physiologically by the woman's urethrovaginal gland. This moisture is ordinarily referred to as "vaginal fluid," "vaginal secretion" or "vaginal lubrication," even though the vagina on its own has never shown an intrinsic ability to provide the necessary fluid, either in terms of required volume or its lubricant nature.

In addition, evolving genetic technology is both allowing and requiring us to be much more specific about the nature of our tissues and physiologic processes. For example, it is now standard to characterize many body fluids in terms of any genetic material they contain, such as microRNA (miRNA). Technically, this means that the involved miRNAs are derived from the tissue cells that generate the fluid, not from tissue cells that are simply exposed to the fluid. We already know this to be particularly relevant to fluids collected from the vagina. Thus, the phrases, "vaginal fluid," "vaginal secretion" and "vaginal lubrication" must now be re-defined in terms of the tissue of origin – not simply the anatomy of where the fluid was obtained. Very specifically, it is now overwhelmingly obvious that the urethrovaginal gland supplies the previously mislabeled "vaginal secretion" or "vaginal lubrication," which is transferred to inside the vagina after passing through the urethra and urethrovaginal gland ducts. A similar process accounts for the tears that bathe the eyes: tears are not secreted primarily by the eyeball itself, but rather by the lacrimal and Meibomian (tarsal) glands.

We often discuss the human female urethra and vagina as though they are totally separate and distinct from each other throughout their entire lengths. Although convenient and realistic for many discussions, ultimately, such a rendering of human female anatomy is incorrect. That is, while the human female urethra and the vagina are separate from each other for most of their respective lengths, the distal 1-3 centimeters of both organs are fused to each other, with no space or other delimiting boundary between them. The fused section also corresponds to the specialized glandular apparatus of the human male's prostate gland. On the one hand, these facts reflect certain details of embryological development. Specifi-

cally, the female urethra, the distal one-third of the vagina and the aforementioned glandular material (urethrovaginal gland) are all derived from the embryologic "urogenital sinus." (This contrasts to the alternative embryologic origins of the urinary bladder, the proximal two-thirds of the vagina, the uterus and the Fallopian tubes.) And, on the other hand, this very special part of a woman – the urethrovaginal fusion with its associated glandular apparatus – contributes uniquely to her sexual behavior and satisfaction.

This confluence of the distal urethra, distal vagina and glandular tissue is realistically and appropriately called the urethrovaginal gland. In addition to acknowledging some male-female differences in terms of this organ's details, Australian urologist Helen O'Connell and her colleagues recognized the special importance of anatomic confluence in this part of a human female's body [1-4]. They noted specifically that "the distal vagina, clitoris, and urethra form an integrated entity" and that these parts have a shared vasculature and nerve supply and during sexual stimulation respond as a unit ... the clitoris, urethra and distal vagina form a united complex ... the clitoral complex". The schema presented here simplifies matters by designating the tripartite confluence of the distal urethra, distal vagina and urethrovaginal gland, which then, as specified by O'Connell et al. is merged with the clitoris in the clitoral complex. That is, "vaginal lubrication" is a critical physiological function of both the urethrovaginal gland and the clitoral complex.

As already noted, in this article, except for verbatim quotations of prior publications, this special part of female anatomy is to be strictly referred to as the urethrovaginal gland. Other designations for the urethrovaginal gland in the biomedical literature have included "female prostate gland," "Skene gland," "paraurethral gland" and "periurethral gland." As for the "female prostate" designation, while comparative anatomy has documented that a portion of the male's prostate gland is comparable to the urethrovaginal gland, the latter is not the counterpart of the entire prostate gland of the male – of any species. It is different because it has different female-specific functions. Nor is the urethrovaginal gland to be discounted as "vestigial," and thereby useless and irrelevant. As for the Skene eponym, there are three considerations: Alexander J.C. Skene certainly was not the first to describe this tissue; his focus was primarily on the duct system, not the secretory elements [5-7] and, finally, it seems unnecessary that such a distinctively female tissue be named for a man. As for "paraurethral" and "periurethral," the glandular material is as much paravaginal or

perivaginal [8,9]. Moving forward, this carefully crafted and realistic name – urethrovaginal gland – will go beyond the denial, the myths and the misunderstandings about this vital part of being a human female. This tightly interwoven confluence of secretory and duct elements with a fused urethra and vagina is the urethrovaginal gland. Venus can now be made complete.

Multilevel Consequences

In addition to facilitating women's sexual satisfaction through raising awareness, there might also be opportunities to enhance medical care and biomedical research endeavors relevant to human female sexual anatomy and physiology. To my surprise, however, there was, and continues to be, substantial, almost uniform ignorance, reticence and often untoward prejudice among medical professionals – both clinicians and researchers and both men and women – that ultimately compromise innumerable girls and women. Most important has been the ubiquitous presumption that the only fluid to pass through – or issue from – the female urethra is urine. Through the present, the source of the other important urethral effluent, the urethrovaginal gland, has usually been considered a fiction, a myth or irrelevant. Thus, its secretion, amrita, has similarly been considered a fiction, myth or irrelevant. Only one venue has openly acknowledged and exploited the fact and nature of amrita: the adult movie industry. However, such endorsement predictably added to the rationales for making light of or ignoring this aspect of femininity.

In any event, it is overwhelmingly clear that many people in the general population, and especially among the medical and biological professionals, are ignorant of or satisfied with the human female – girls and women – being incomplete in many very important senses, especially with regard to their sexual anatomy and physiology. This is a big mistake and we must go beyond a focus on human female sexuality to concerns about human female completeness in a broader sense. Sexuality is still important, but now the more socially neutral biomedical research, clinical medical and educational issues are as, or even more, compelling.

In the early 21st Century it is increasingly common to consider developing “virtual organisms,” that is, computer simulations of an entire organism. For example, a virtual human could be used for teaching medical students, developing research strategies and facilitating diagnostic accuracy and treatment approaches. In this regard, does it make any sense to imagine a virtual human male without including the prostate

gland and its secretions? Does it make any sense to imagine a virtual human female without including the urethrovaginal gland and its secretions? If a virtual human female were to be constructed today, it is likely that her urethrovaginal gland and amrita would be left out. If the urethrovaginal gland and amrita were included, almost certainly the details and accuracy would be severely wanting. Lack of these items and data would make such a virtual, that is, digital human female quite incomplete, replicating the situation for real, that is, physiological human females presently.

But, back to the starting place by clarifying three things: 1. The fact and nature of the urethrovaginal gland; 2. the fact and nature of the secretion of the urethrovaginal gland, the amrita that ordinarily accompanies female sexual activity; and 3. the fact and nature of the sexual pleasure associated with urethrovaginal gland secretion. These facts merge the very old and the very new. Amrita is a very old Sanskrit word designating the secretion of the urethrovaginal gland; the state of exquisite pleasure sometimes accompanying the amrita is designated amritasis. Molecular genetics, in contrast to the “very old,” is a very new approach to understanding life, and it is especially new to understanding human sexuality.

There are two types of coding or translation that are part of genetics. First, there is the DNA that is transcribed into a variety of RNA molecules, some of which are translated into cellular proteins and some of which serve as regulators, for example miRNAs. Second, there is the clinical genetics that decodes and translates at the level of the organism, making sense of the organism's traits and adaptations in terms of the interplay of all of the organism's genes. This latter task – making sense from a clinical perspective – requires formulating and reformulating both the available clinical and basic genetic information and the tentative conclusions, primarily by the adept asking of critical questions and configuring the information in a binary (digital) format for further analyses using computers and other binary code translators. This is especially true for the set of tasks involved in what is known as “genotype-phenotype correlations,” that is, clarifying the relationships between the genetic underpinnings (genotype) and the trait and/or its component features (phenotype). It is increasingly important in this regard that a biological fact can also be a binary/digital fact. Consider, for example, the notion of a “virtual human” or a “silicon human” or even virtual tissues such as electronic skin and nanomechanical nerve networks comparable to brains.

It is this merging of previously disparate data that has changed – improved – our resolving power, our ability to understand: digital data become equivalent to physiological data. We become – additionally and alternatively – what the computer represents. For example, consider the use of digitized facial photographs to identify patterns in the digital rendering not apparent in the physiological visual appreciation of the face. In other words, we can take what were previously two types of encodings and reduce them to the same digital/binary format and then make comparisons in a single format. A key goal of this approach is to clarify how one or more human female sexual experiences can be useful for such comparisons and correlations. In this context, one must consider the consequences if the binary data are incomplete regarding the urethrovaginal gland and amrita.

From the very start, there has been “controversy” regarding human female ejaculation. The first task was thus to identify the anatomic basis for the human female ejaculation process and thereby substantiate the ejaculation. This led to a second controversy, which is whether the urethrovaginal gland, which supplies the female ejaculate, amrita, is the same as the male’s prostate glands. They have things in common (including embryologic origin), but they are not the same. The controversies and confusion about female ejaculation and the presence and nature of the urethrovaginal gland merged with a more pervasive mystery about both human female sexuality in general and the nature of human female sexual anatomy and sexual processes. The mystery was apparent both in terms of the nonverbal appreciation of the anatomy and processes on the one hand and the confusing collection of words available to describe and characterize these elements. A daunting, often confusing array of information has been transformed to provide a useful and compelling schema with two consequences: 1. To facilitate the direct and immediate enhancement of human female sexuality; 2. To enhance the nature and intensity of several levels of health care and biomedical research necessary to address accurately human female sexuality.

New Directions Going Forward

As part of this supposed mystery, there was a most intriguing question: why were accurate renditions of such potentially important aspects of human sexuality – amritasis, amrita and the urethrovaginal gland – all but hidden? While some details were buried in ancient history and arcane or highly technical scientific prose, there were many immediately accessible

articles and books [10]. Why have these latter sources not been appreciated and broadcast? Why has there been so much mystery about such fundamental aspects of human life? Part of the problem has been the tendency to consider female sexuality either in terms of the mundane, routine, unexciting “average” or in terms of pathology or dysfunction. To the contrary, my focus now is on normal and particularly satisfying female sex. This is not another lament about sex that needs fixing. No! It is a celebration of human female sex and human female sexuality, both in the ordinary and at the most pleasurable extreme. At the same time, however, this is not a set of instructions, nor a set of step-by-step guides to enhance the sexual experiences of individual women. And yet, if these words give the majority of female readers the sense that there is indeed a realistic basis for improving their own sexual satisfaction then we will have made headway toward at least one of my goals.

It is important that “human female sexuality” not be circumscribed or otherwise limited by elements of pornography, the explicit depiction of sexual activity – in words, drawings, photographs, movie film or digital format – with a focus on the genitalia and at least some elements of naughtiness or shameful behavior. On the other hand, to the extent that producers and purveyors of pornography have co-opted or even “hijacked” some important truths about ordinary sexuality, in particular amrita and female ejaculation, it may be useful, even necessary, to avail ourselves of the facts portrayed from the pornography vantage point. That does not mean every person must view the material firsthand. As an alternative, I have viewed selected pornographic material and rendered the data in ways suitable for both a general readership and scientific analysis. I anticipate that these scientifically “sanitized” renderings may help a person realize what can be wanted. In this context, with specific regard to human female sexuality, I concur with the aphorism that “you get what you want” and I want you to want more, to expect more. I want your expectations to match your potential.

This article is not about rehashing the controversies noted regarding female ejaculation and the urethrovaginal gland, nor even about substantiating the fact of amrita and amritasis – those controversies have been resolved and the substantiation has been done many times over. This work, rather, is about acting on the earlier substantiation, making it more meaningful, more useful for all women. The sexual satisfaction-orgasm-ejaculation spectrum described here leads to a subtle sexual liberation without revolution or discounting evo-

lution. The recognition and analysis of this spectrum or continuum are liberating in many ways, including the proposition that the ultimate in human female sexual satisfaction can be achieved as a purely female phenomenon. On the other hand, realizing the many levels of similarity of males and females is insightful and, indeed, central to the enhancements that are this composition's goals. And, finally, there is the reminder that the urethrovaginal gland and amrita warrant attention for much more than their association with sexual satisfaction, orgasm and reproduction. As emphasized on several occasions, there are also concerns about early childhood toilet training and adequate information for adolescents on the one hand and an alternative to presumed adult female "coital incontinence," "urinary incontinence" and "overactive bladder" on the other hand.

Venus de Milo has obviously been incomplete. But, how do we "make her whole?" Would it be enough to replace her upper extremities, when there is another body part almost everyone leaves out, as though it were totally irrelevant to all the women whom Venus personifies: For Venus to be complete, she must possess a urethrovaginal gland – as she does now!

References

1. O'Connell HE, Hutson JM, Anderson CR, Plenter RJ. (1998) Anatomical relationship between urethra and clitoris. *J Urol* 159:1892-7.
2. O'Connell HE, DeLancey JO. (2005) Clitoral anatomy in nulliparous, healthy, premenopausal volunteers using unenhanced magnetic resonance imaging. *J Urol* 173:2060-3.
3. O'Connell HE, Sanjeevan KV, Hutson JM. (2005) Anatomy of the clitoris. *J Urol* 174:1189-95.
4. O'Connell HE, Eizenberg N, Rahman M, Cleeve J. (2008) The anatomy of the distal vagina: towards unity. *J Sex Med* 5:1883-91.
5. Skene A. (1880) The anatomy and pathology of two important glands of the female urethra. *Am J Obstet Gynecol* 13:265-70.
6. Custodio AM, Santos FC, Campos SG, Vilamaior PS, Goes RM, Taboga SR. (2008) Aging effects on the mongolian gerbil female prostate (Skene's paraurethral glands): structural, ultrastructural, quantitative, and hormonal evaluations. *Anat Rec* 291:463-74.
7. Cesarani F, Corsico M, Robba T, De Zan A. (2000) MR imaging and endorectal sonographic appearance of a cyst of Skene's ducts. *Am J Roentgenol* 175:1466-7.
8. Brambell FW, Davis DH. (1940) The normal occurrence, structure and homology of prostate glands in adult female *Mastomys erythroleucus* Temm. *J Anat* 75:64-74.
9. Smith AF, Landon GV, Ghanadian R, Chisholm GD. (1978) The ultrastructure of the male and female prostate of *Praomys (Mastomys) natalensis*. I. Normal, castrated and ovariectomized animals. *Cell Tiss Res* 190:539-52.
10. Sevely JL. (1987) *Eve's Secrets: A New Theory of Female Sexuality*. New York: Random House.

Submit your manuscript to a JScholar journal and benefit from:

- ¶ Convenient online submission
- ¶ Rigorous peer review
- ¶ Immediate publication on acceptance
- ¶ Open access: articles freely available online
- ¶ High visibility within the field
- ¶ Better discount for your subsequent articles

Submit your manuscript at
<http://www.jscholaronline.org/submit-manuscript.php>