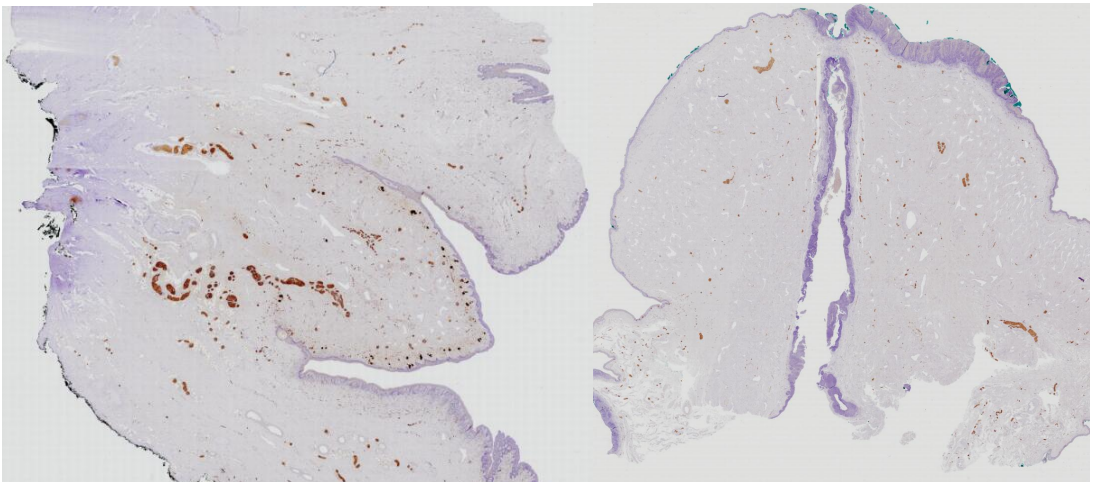
UNIVERSITÉ DE GENÈVE

FACULTY OF MEDICINE

Master Thesis in Medicine

Improving Knowledge about the Histology of the Clitoris and Penis at the University of Geneva: A Pilot Study



Mirjam KIELHOLZ

Supervised by Dr Jasmine ABDULCADIR

Geneva, 31st May 2023

Acknowledgments

I want to express my gratitude to all those who have contributed to successfully completing this Master's thesis.

First and foremost, I want to thank my thesis advisor Dr. Jasmine Abdulcadir for agreeing to supervise this thesis and accompanying me on this first research experience. I am very grateful for her expertise, support, and insightful feedback that shaped this thesis and allowed me to acquire valuable knowledge and skills for my academic and professional future.

I also want to thank Dr. Priscilla Soulié for collaborating with me in order to update the histology teaching. She is not only an excellent histology teacher, but also a very encouraging supervisor. Without her expertise in histology and teaching this thesis could not have been realized.

I also want to thank Dr. Céline Brockmann, who contributed to the study design and continued to shape this thesis with insightful inputs.

Furthermore, I am extremely grateful for the collaboration with Maéva Badré that started with a research grant application and evolved into a friendship. I am very thankful for her encouragement all throughout this thesis, the very interesting discussions we had, and the fun nights out.

I extend my thanks to all the second-year medical students who took the time to participate in the study survey and share their thoughts and valuable inputs.

Finally, yet importantly, I would like to thank my friends and family for providing precious input for my thesis and especially for motivating and supporting me throughout my studies.

Table of Content

Abstract

Background: Despite a recent gain of public interest and visibility of the clitoris, its anatomy and histology remain poorly taught within the scientific community and among future health professionals.
Aim: We aimed to update the histology teaching of second-year medical students at the University of Geneva by including histologic sections of the glans of the clitoris and the penis and assessing the students' experience with such sections.
Methods: We digitalized already existing histological sections of the glans of the clitoris and penis and included their description in the histology teaching manual on the reproductive system. Under the supervision of tutors, the students identified the histologic structures on the virtual microscope of Cytomine, clarified their questions, and presented some histological sections.
After class, we surveyed the medical students through a brief facultative questionnaire assessing their thoughts on the update.
Results: The histology teaching was updated with a classic hematoxylin and eosin (HE) stain section and an immunohistochemical stain of S100 protein hematoxylin counterstained sections of the clitoral and penile glans. On the virtual microscope of Cytomine the students identified the following structures of the clitoris: the distal portion of the clitoral body with numerous Pacini corpuscles in the surrounding tissue, the dorsal nerves of the clitoris, numerous genital sensory corpuscles. On the sections of the penile glans, the students observed the distal part of the urethra surrounded by the corpus spongiosum, numerous genital sensory corpuscles, and nerves of the glans of the penis.
57 of 161 students replied to the survey. They all found it important for their knowledge to receive information on clitoral and penile histology.
Conclusion: The introduction of the teaching of the histology of the clitoris and penis can be done easily and meets the interest of second-year medical students.

1. Introduction

The clitoris and penis are homologous, erectile, and tumescent organs consisting of a glans, body, two crura (cavernous tissue or corpora cavernosa), and bulb(s) (spongy tissue) (1). The primary function of the clitoris is related to sexual pleasure and orgasm, whereas the penis has additional excretory and reproductive functions. Some argue that the clitoris also has a reproductive function, as its stimulation facilitates and induces genital changes that can increase reproductive success (2) and a potential analgesic function (3,4).
The two organs present similarities and differences (see Figure 1). For instance, the visible part of the clitoris is the glans, whereas the visible parts of the penis are the body and the glans. The external urethral orifice is located on the glans of the penis in the male but in the vulvar vestibule in the female genitals. Both organs' glans are surrounded by the prepuce. The crus are made of cavernous tissue that are surrounded by a resistant double-layered albuginea (5). They are attached to the ischio-pubic rami of the coxal bones via the ischio-cavernous muscles. The convergence of the two crura forms the body of the clitoris and penis. The fusion of the albuginea that surrounds the corpora cavernosa is called median septum (6) for the clitoris and penile septum for the penis (7). Under the action of specific parasympathetic nerve endings and simultaneous inhibition of the sympathetic nerve system, the intercommunicating cavernous sinuses fill with blood during sexual arousal, which results in an erection (8).
The vestibular or clitoral bulbs of the clitoris and the corpus spongiosum of the penis consist of spongy tissue, which like the cavernous tissue, has intercommunicating cavities that fill with blood in a state of sexual arousal. However, unlike the crura, the bulbs are not covered by an albuginea, and their spongy tissue differs macro- and microscopically from the cavernous tissue. Cavernous tissue contains a higher amount of smooth muscle and has a more retiform shape, while spongy tissue tends to have more of a round/oval shape with larger venous sinuses (6,9). To the best of our knowledge, there is no data on whether the cavernous and spongy tissue differs between sexes.
In the clitoris, a septum-like tissue with peripheral longitudinally oriented veins between the clitoral body and the distal part of the urethra can be found (10). This structure was first described in the 19th century under the term "pars intermedia" by an anatomist called Kobelt (11). Recent studies have further described the anatomy and histology of this region (5,10) that appears responsible for a coordinated vascular response during arousal (12). Kobelt described a homologous region in the penis containing "venae communicantes" (11) that has not been the subject of more recent scientific interest.

The vegetative innervation of the penis and clitoris occurs via the cavernous nerve (CN) and allows erection. The dorsal nerves of the clitoris and penis carry sensory information from the many nerve endings and sensory corpuscles found in the clitoris and penis. For both organs, the density of genital sensory corpuscles is especially high in

the glans. The glans of the clitoris appears to have significantly greater interindividual variation in terms of corpuscle density when compared to the penile glans (13).

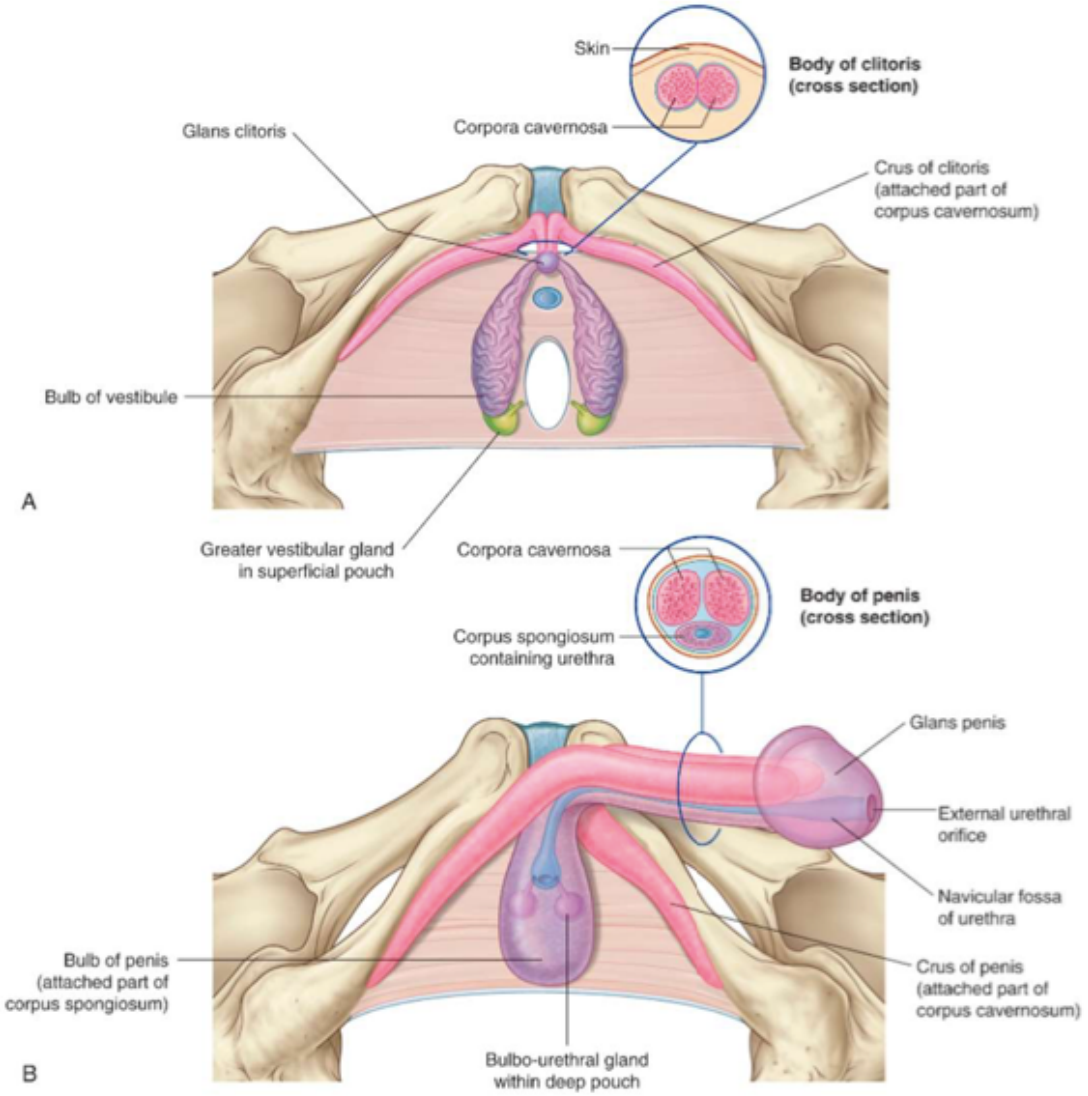


Figure 1: Erectile tissues of clitoris and penis. A. Clitoris. B. Penis, Grey's anatomy student 4th edition (14).

Table 1: Homologous structures of the clitoris and penis and associated structures

Glans of clitoris	Glans of penis
Crus and body of clitoris (cavernous tissue)	Crus and body of penis (cavernous tissue)
Vestibular or clitoral bulbs (spongy tissue)	Bulb of penis
Outer labia	Scrotum
Inner labia and vulvar vestibule	Penile raphe
Prepuce (clitoral hood)	Prepuce (foreskin)
Major vestibular glands (Bartholin's glands)	Bulbourethral glands (Cowper's glands)
Minor vestibular glands (Skene's glands)	Prostate

Dorsal nerve of the clitoris (originating from the pudendal nerve)	Dorsal nerve of the penis (originating from the pudendal nerve)
Cavernous nerve	Cavernous nerve

The clitoris and penis share the same embryological origin and many functional and structural similarities. However, compared to the penis, the clitoris has been poorly studied. In 2023, a PubMed search for the term “clitoris” yielded only 2,642 publications, compared to 54,194 publications obtained with the term “penis”. This vast difference in the amount of research published on this topic is partially explained by the fact that, in addition to its sexual function, the penis has reproductive and excretory functions. However, the clitoris has also been understudied for sociocultural, historical, and political reasons. Most of the publications on the clitoris focus on diseases, disorders, and surgeries, with less than 10% focusing on non-pathologic clitoral anatomy and physiology (15). Recent advancements in the understanding of clitoral anatomy and physiology, for example, through studies on the dorsal nerve of the clitoris (16–18) allowed a better understanding of the trajectory of the dorsal nerve and characterized different branching patterns. Still, the available data is less robust than those on the dorsal nerve of the penis (19). Little data on autonomic innervation and physiology is available on the cavernous nerve (CN), the bulbar nerve, and the spongious nerve (the latter is only mentioned in one) (20). The CN of the penis is described in numerous studies and thus allowed to improve nerve-sparing surgery (19,21,22). A recent study found large nerve fibers coursing laterally to the pars intermedia that had not been described before (10). More research is needed to characterize further these nerves' nature, function, and course. Knowledge about clitoral innervation has direct clinical implications, as in vulvar and vaginal surgeries for malignant and benign conditions, such as urinary incontinence or anterior vaginal cysts, as well as in gender affirmation surgeries or reconstructive surgery after female genital mutilation/cutting (FGM/C) (23).

While it is true that the clitoris has been less extensively studied when compared to the penis, it is important to acknowledge that there are notable differences in some specific areas of scientific interest surrounding these two organs. Certain aspects of the clitoris, especially those concerning mediatized and controversial subjects, like the “G-Spot” and its potential connection to “vaginal orgasm” have been the subject of numerous studies (24–28). For the penis, on the other hand , the exact location of the generation of an orgasm does not seem to be a subject of interest (29), for example, only a few scientific studies explore the prostate as a potential source of orgasm generation (30). Erectile dysfunction, on the other hand, has been studied much more extensively for the penis than for the clitoris (29).

A knowledge gap regarding the clitoris and penis persists not only within the scientific community but also the medical one. A study assessing clitoral anatomy and

physiopathology knowledge among over 1000 physicians in France has shown that more than 80% of physicians never learned about the clitoris during their medical studies (31). The physicians identified the anatomical parts of the penis with significantly higher accuracy than the anatomical parts of the clitoris, except for the crus of the penis, which just like the internal parts of the clitoris, were much less well-known (31). In medical training, students and residents are not yet instructed on examining the vulva and clitoris as a standard practice (19). For example, in a clinical setting, the physical examination of the clitoris and prepuce is not routinely taught to urology residents. In contrast, the clinical examination of the penis and prepuce is (32). Physicians tend to use predominantly non-medical sources when researching information on clitoral anatomy and physiology (31).

2. Objectives

The aims of this study were:

1) to update the histology teaching of the reproductive systems for second-year medical students at the University of Geneva (Unige) by introducing for the first time histological sections of the glans of the clitoris and the penis into the existing teaching manual and by reviewing the available literature on the clitoris.

2) to evaluate the student's acceptance and opinions on such an update.

3. Methods

The previous manual of the female and male genital systems included the ovaries, uterus, and Fallopian tubes for the female reproductive system and the testicles, prostate, and intra- and extra-testicular genital ducts, but not the clitoris or the penis. To update the histology teaching, we obtained available histological sections of the glans of the clitoris and penis from the Geneva University Hospital (HUG) pathology service. These sections originated from patients who underwent surgery for vulvar and penile cancer in the 1960ies. They consisted of one section with a classic hematoxylin and eosin (HE) stain and one with an immunohistochemical stain of S100 protein counterstained with hematoxylin of each organ. S100 immunohistochemistry allows for better visualization of neural structures. The axis at which the histologic sections were cut was not documented. For the HE section of the clitoris, the axis could only be assumed using the visible structures for orientation.
The sections were digitalized and added to the virtual microscope of the platform Cytomine (33). Descriptions of the visible structures in the sections were added to the current teaching manual, along with schematic illustrations of the histology of the two organs. A literature review informed this update of the manuals, whose methods are available in the appendix (Appendix 1).

The histology teaching is mandatory for all the 161 second-year medical students at Unige. The histology teaching of the reproduction unit includes 14 histological sections of the female and 11 sections of the male reproductive system. Using the flipped classromm approach, the students were encouraged to identify and annotate the structures described in the teaching manual on the virtual microscope of Cytomine in advance so that the gained knowledge can be applied and solidified during class. The students were separated into groups of 10-16 students. Each group is supervised by 1-2 tutors trained by the scientific collaborator responsible for histology teaching at the Faculty of Medicine of Unige. The duration of the class is 2 hours for the female and the male reproductive systems each and is structured as follows:

1) During the first part of the class, students can ask questions to each other and/or to the tutors. The most challenging sections are analyzed collectively. Since the pandemic, students are connected via Zoom in the classroom to share their screens with the identified structures and their annotations on Cytomine.
2) Students present orally the previously prepared histological sections. They describe the staining used and the macro- and microscopically visible structures with the goal of identifying the organ solely based on the histologic section.

In order to evaluate the student's opinions and thoughts on the recent introduction of the clitoris and penis into the teaching, at the end of the class, the tutors distributed a QR code giving access to a facultative online survey The survey contained two

questions: a) This year, for the first time, two histological sections of the clitoris and the penis were included in the histology teaching of the reproductive system. Do you find this relevant to your knowledge? Yes-No b) Why?

4. Results

4.1 Update of the Histology Teaching

The existing teaching manual was updated with the description of the histological structures visible in the sections of the clitoris and penis (see below) along with schematic illustrations (Figure 11) to help identify the different structures of the organs in the virtual microscope of Cytomine.
The updated teaching manual's full version (in French) can be found in Appendix 2.

4.1.1 Histology of the Clitoris

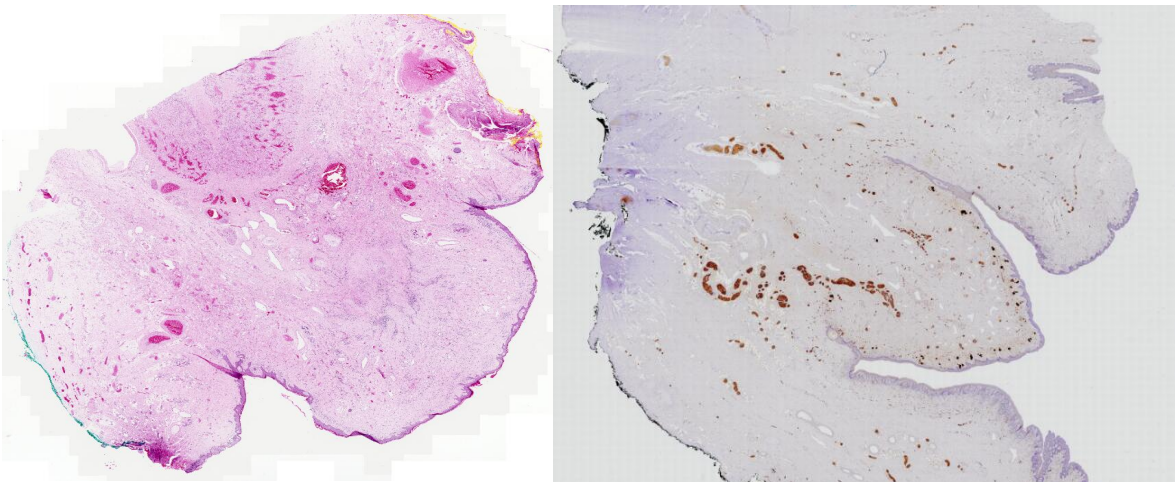


Figure 2: Histologic sections of the glans of the clitoris with a HE-stain (left) and immunohistochemical stain of S100 protein counterstained with hematoxylin S100 (right).

On the HE-stained obliquely cut section, the following structures can be identified: the cavernous tissue of the clitoral body with its albuginea and medial septum and numerous Pacini corpuscles.
The longitudinally cut section with S100 protein straining reveals the dorsal nerves of the clitoris and numerous genital sensory corpuscles located below the epithelium of the glans.

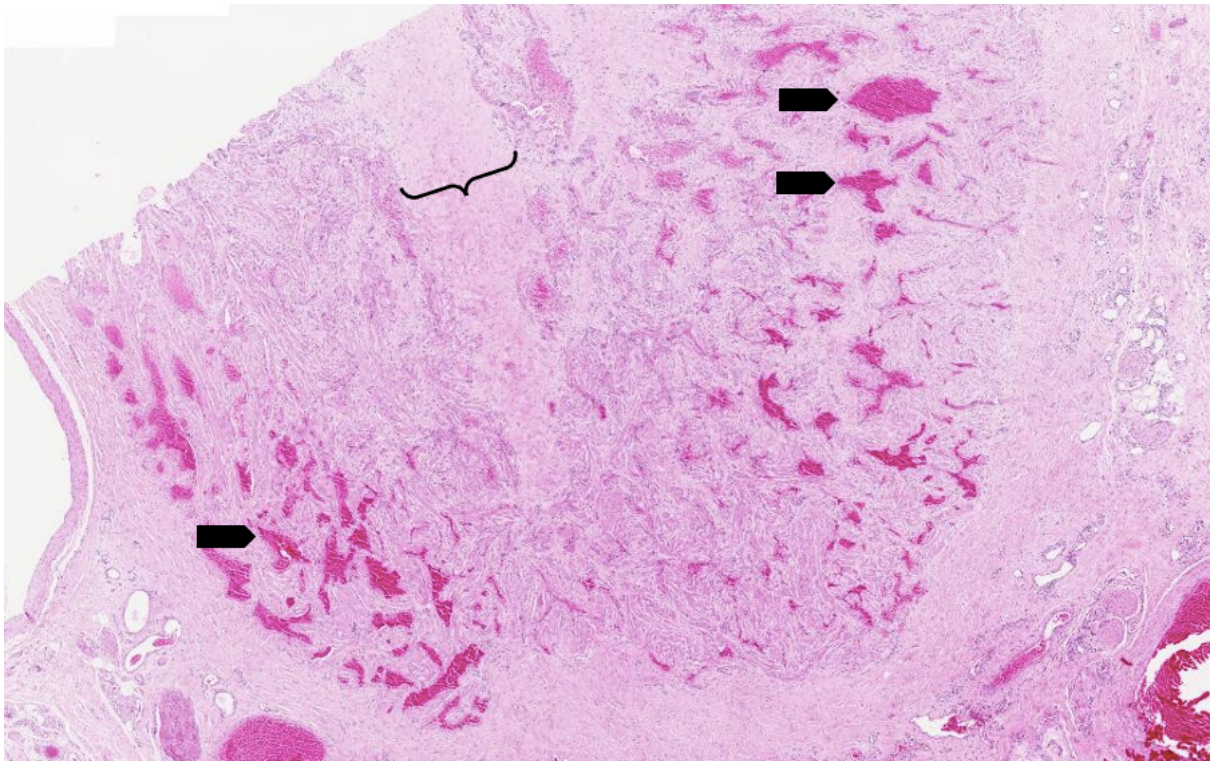


Figure 3: Distal part of the clitoral body with blood-filled cavities (arrowheads) of the cavernous tissue surrounded by the albuginea and separated by the medial septum, both made of the same dense connective tissue (bracket).

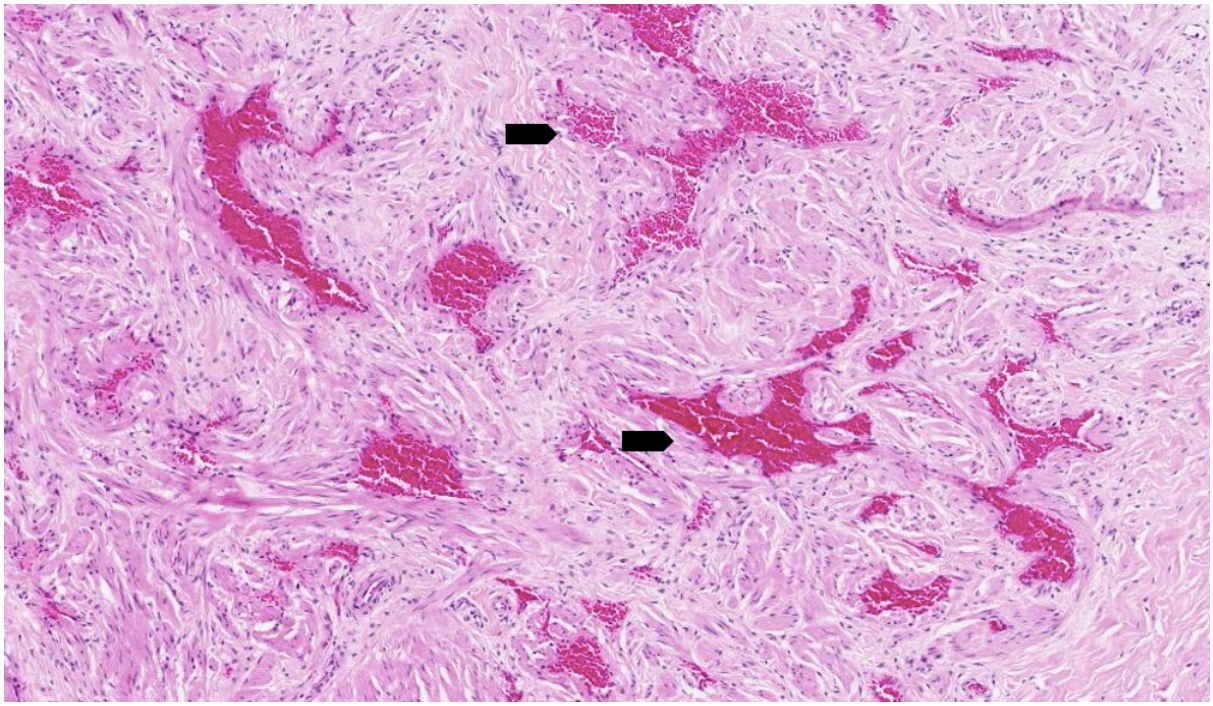


Figure 4: Zoom on cavernous sinuses (arrowheads) lined by endothelial cells and surrounded by an irregular layer of smooth muscle cells and irregular connective tissue. (HE staining)

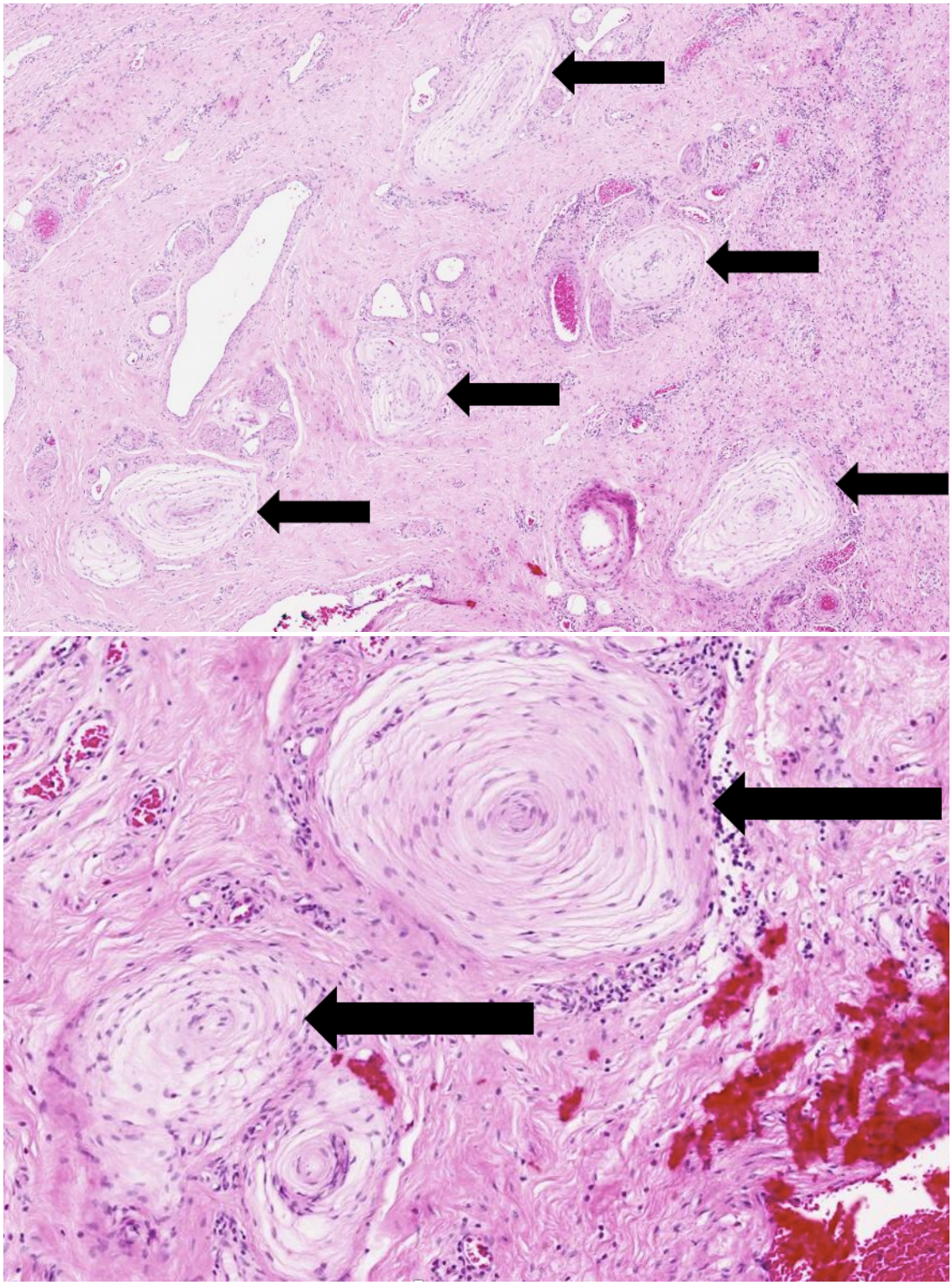


Figure 5: Numerous Pacini corpuscles (arrows) found distally of the distal clitoral body (HE staining).

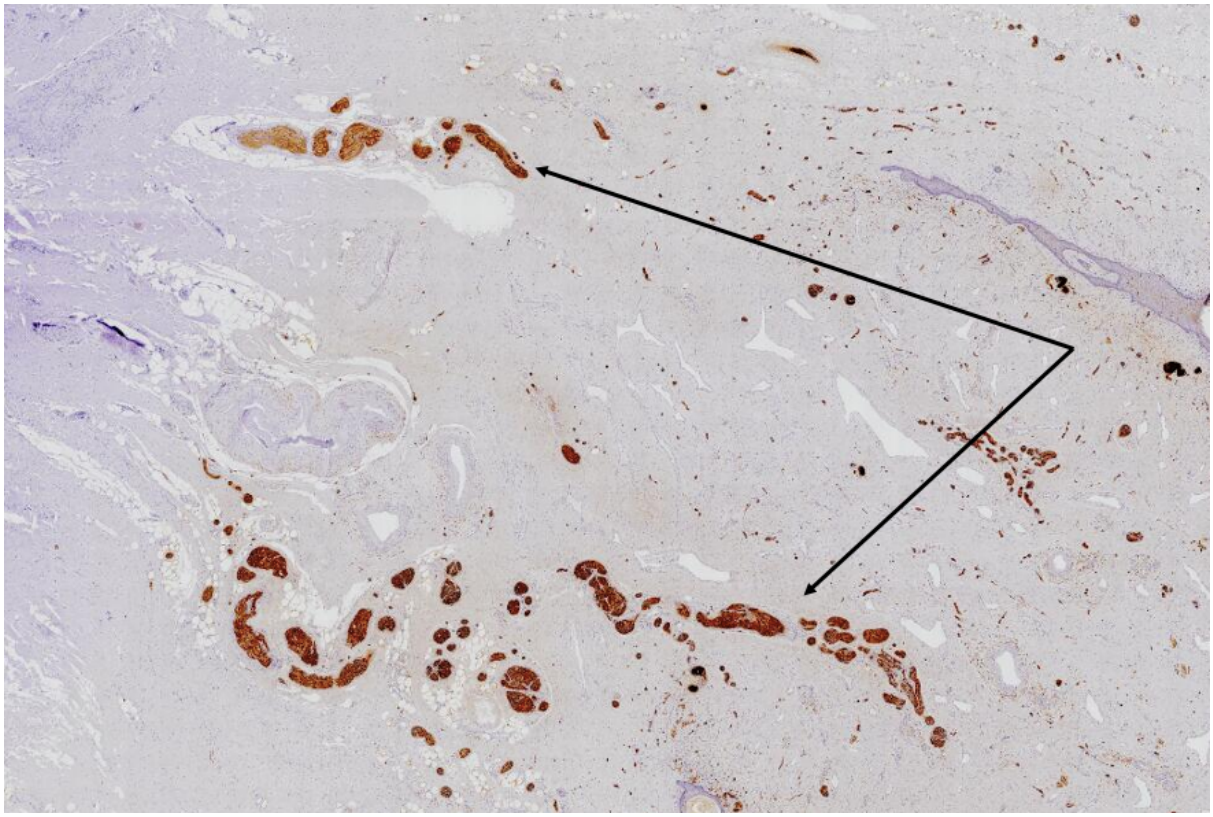


Figure 6: dorsal nerves of the clitoris (thin arrows).

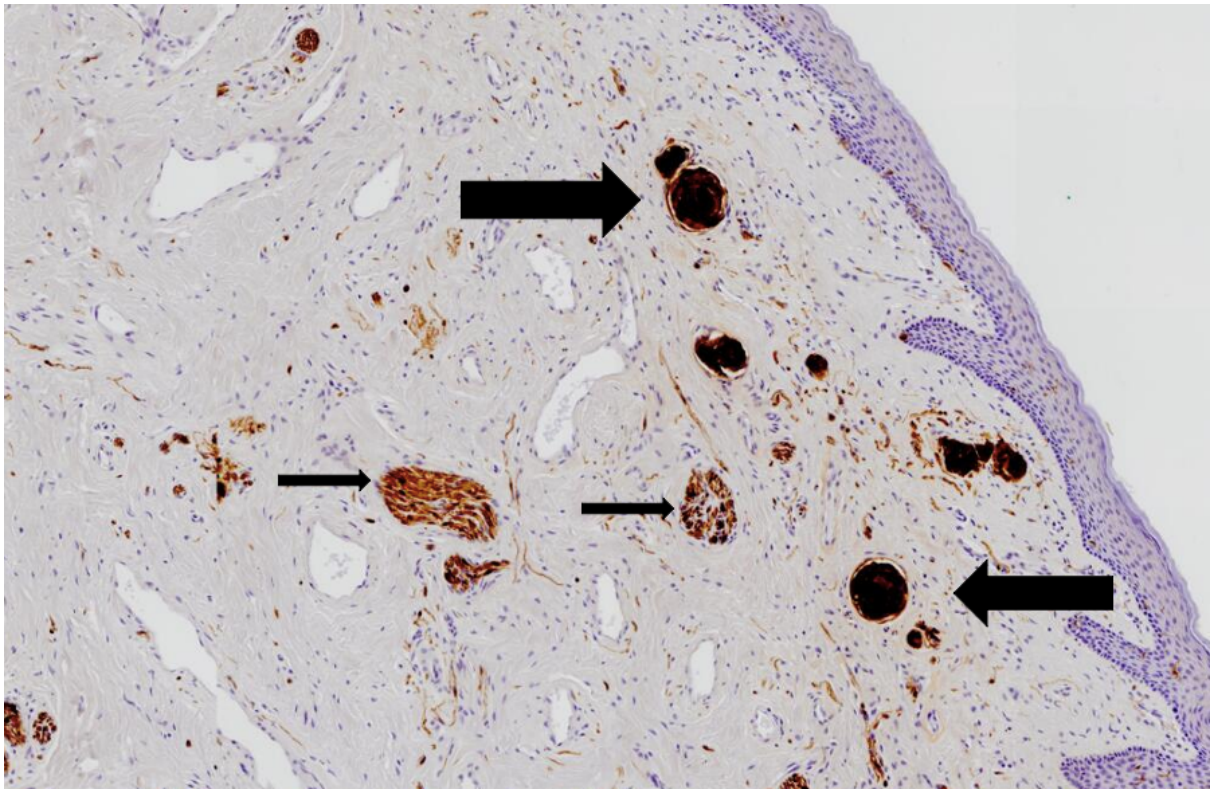


Figure 7: Numerous genital sensory corpuscles (thick arrows) and nerves (thin arrows) below the epithelium of the glans.

4.1.2 Histology of the Penis

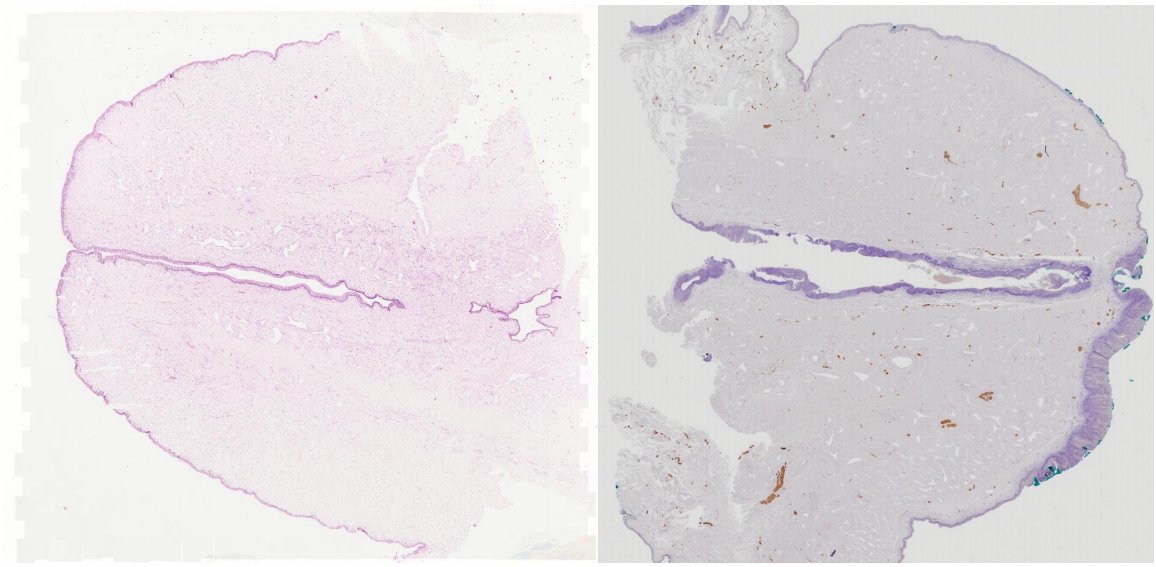


Figure 8: histologic sections of the glans of the penis with a HE stain (left) and immunohistochemical stain of S100 protein counterstained with hematoxylin S100 (right).

In both sections, the distal part of the urethra surrounded by the corpus spongiosum is visible. S100 protein staining emphasizes the numerous genital sensory corpuscles and nerves of the glans of the penis. The epithelial thickening on the S100 stained section corresponds to a carcinoma.

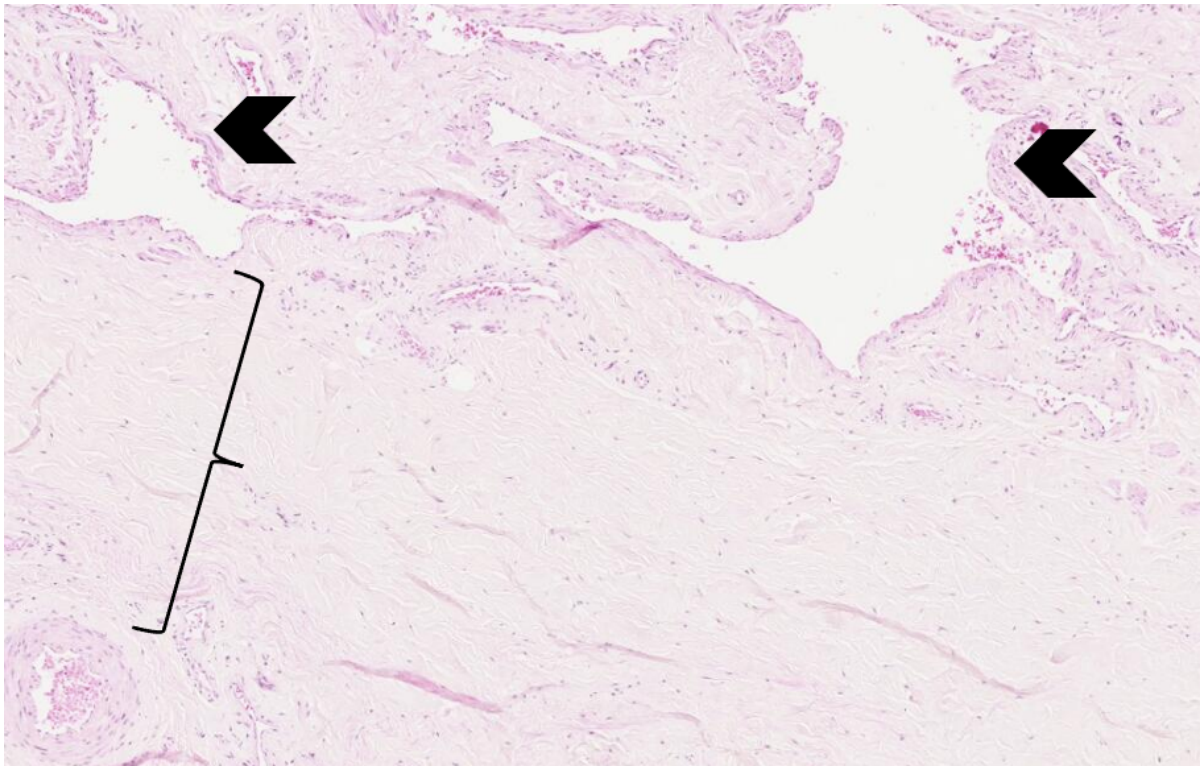


Figure 9: vascular sinuses of the spongy tissue of the penile glans lined with endothelial cells and surrounded by some smooth muscle cells and connective tissue (arrowheads)

and distal part of the albuginea, a fibrous layer of connective tissue surrounding the corpus cavernous (bracket).

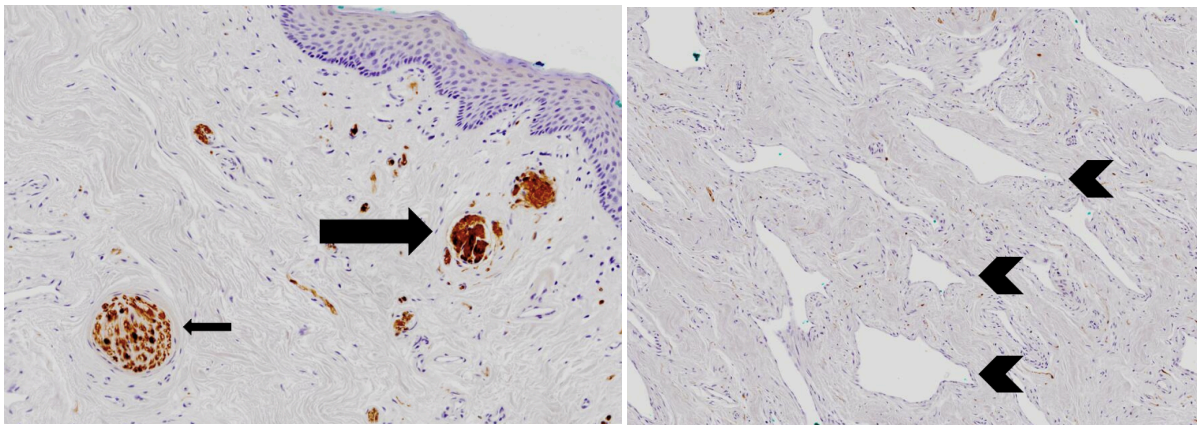


Figure 10: Genital sensory corpuscles below the epithelium of the penile glans (thick arrow) and a nerve (thin arrow) and spongy tissue of the penile glans (arrowheads)

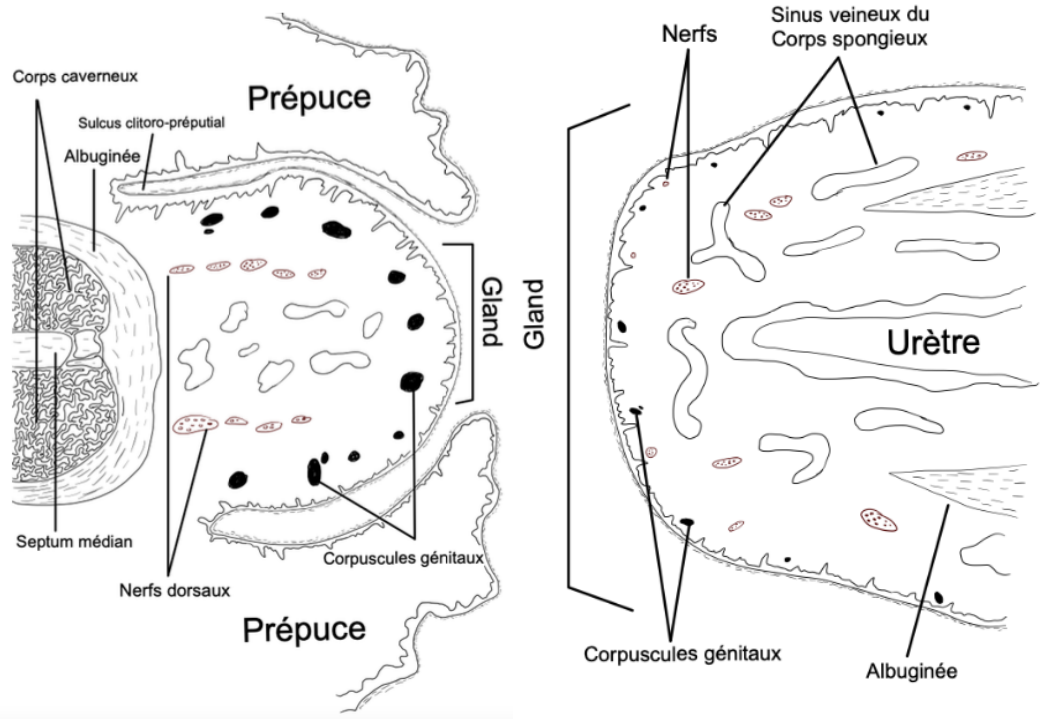


Figure 11: schematic illustrations of the histologic sections of the glans of the clitoris (left) and penis (right) added to the teaching manual for the students (in French).

The students were invited to compare the spongy tissue of the glans of the penis with the cavernous tissue of the clitoral body. The cavernous tissue contains visibly higher quantity of smooth muscle, and the shape of the vascular spaces differs. The students also observed the difference in genital sensory corpuscle density on the S100 stained sections between the glans of the clitoris and the penis.

4.2 Assessment of the Student's Experience with the Update

Of the 161 second-year medical students who took part in the histology class, 57 replied to the survey. All of them responded that receiving information on clitoral and penile histology was important for their knowledge.
36 participants also provided a short written feedback, summarized in Table 2.

Table 2: Summary of the written feedback of the students

Nb of comments (%)	**Reasons mentioned for finding knowledge about clitoral and penile histology important**
20 (56)	interest in the subject, desire to gain knowledge
7 (19)	allows understanding the genital systems in their entirety
3 (8)	helps to understand the organs' function
2 (6)	knowledge important mainly if relevant in future clinical practice
2 (6)	allows appreciating the erectile function of both organs
2 (6)	lacking representation of the clitoris in traditional literature (such as anatomy books)
2 (6)	Allows to understand the similarities of the two organs
2 (6)	importance of mentioning the clitoris as an essential part of the female genital system
1 (3)	allows to understand the specificity of the two organs
1 (3)	allows to remove the taboo around these organs
1 (3)	allows a better understanding of pathologies and surgeries that concern the clitoris

5. Discussion and Conclusion

Knowledge gaps between the clitoris and the penis continue to persist within the scientific and medical community (19,31,34). The University of Geneva (Unige) medical faculty has been committed to providing equal information about the clitoris and penis among medical students, who will be future healthcare professionals. Such commitment led to the introduction in 2017 of a course on the history of the female genital organs (35) and in 2022 to the update of the practical anatomy class of the reproductive system for second-year medical students (36) through 3D MRI based and stylized models of the penis and clitoris (37). Since 2018 Unige implements PROFILES (Principal Relevant Objectives and Framework for Integrative Learning and Education in Switzerland) a conceptual framework created by expert groups that provides learning objectives for medical students and faculties in Switzerland. It is based on integrated learning, teaching students skills and competencies to handle common clinical situations (38). In 2021, Unige requested to include the teaching on the anatomy and physiological and pathological diversity of the vulva along with the clinical exam of the vulva among PROFILES. Such request was accepted at a federal level.

Such update of the histology teaching involves several issues. First, it allows to teach not only the reproductive organs and function but also the sexual organs and functions of the genitals, mentioning the histological structures that allow sensations, arousal, and orgasm. Despite the increasing visibility of sexuality in society (39), undergraduate education of medical students on sexual health often heavily focuses on reproduction and organic diseases (40). The update of the histology teaching allows students to appreciate the reproduction- and pleasure-related functions of the genital organs to gain a holistic view.

Second, studying the organs related to sexual function in an evidence-based manner could contribute to reducing the potential discomfort of discussing sexuality with future patients. Sexual health concerns are frequent complaints in clinical practice, but many students and health professionals do not feel confident in taking patients' sexual history routinely (41,42). A Swiss study showed that a majority of patients would like their physician to ask them about their sexual history to receive advice or prevention. At the same time, only 40% reported having already discussed sexual health with their physician (43). Together with the previously mentioned efforts, including the penis and clitoris in the histology teaching promotes understanding of organs related to sexual function and normalizes its presence in medical discourse.

Third, it contributes to a better understanding of the homology between the organs by highlighting the erectile and sensory functions connected to sexual pleasure. This view promotes the recognition that both organs hold equal importance in generating sexual pleasure and achieving orgasm.

A limitation of the study is that we used sections of pathological organs, whose exact axis and location are not documented. At the same time, using sections that were already available allowed an easy update with no or limited costs, that can be reproduced in many other faculties of medicine. In addition, at the moment, no histologic sections of healthy clitoral and penile glans are available at the Faculty of Medicine of Unige. Furthermore, despite the pathological changes visible in the histologic sections, the physiological structures of the glans, spongy and cavernous tissue can be identified clearly. It is important to note that these histologic sections have been available for 60 years but have only been introduced into histology teaching in 2022.

To further improve the histology teaching of the clitoris and penis, non-pathologic histology sections should be obtained since the current sections show inflammatory infiltration in both organs and epithelial changes in the glans of the penis. Histopathology is taught separately at the faculty of medicine of the Unige. Thus, it would be useful further to update both histology teaching with healthy and pathologic sections. Moreover, disposing of information about the precise axis of the section could facilitate the interpretation of the visible structures, especially for the clitoris. For future histology sections, it would be interesting to dispose of a cross-section of the clitoral body and vestibular bulbs allowing visualizing the internal parts of the clitoris and its tumescent nature. A side-by-side comparison of the homologous structures of the penis (corpus spongiosum and cavernosum) could emphasize the erectile function of both organs. We plan to implement these changes in the near term.

The update of the histology teaching has been met with great acceptance among students. The high number of yes-answers among the survey respondents likely includes a selection bias due to the facultative nature of the survey. Hence, students who find the subject important were more inclined to participate in the survey. Another factor possibly influencing the result is the social desirability bias. Nevertheless, the survey result shows the students' high interest in clitoral and penile glans anatomy and indicates a desire to learn about the sexual function in addition to the reproduction function of the genital systems. In the written feedback, a majority expressed their interest in these structures and/or the desire to gain knowledge in general. Many students found it essential to address the genital system in its entirety, including the clitoris and penis in the manual. Some considered histology helpful for understanding the function of the organ. Several participants focused specifically on the female genital system because they found the clitoris underrepresented in traditional medical references, such as anatomy books. Others considered it necessary that the clitoris is mentioned as an essential part of the female genital system. These comments reflect a wider societal shift towards a more inclusive and sex-positive culture.

An additional finding concerns an ongoing debate on whether the glans of the clitoris consist of erectile tissue. Several authors found it to be erectile (25), while others rather described it as a dense fibroconnective tissue (23). Our S100-stained section reveals

venous cavities in the glans and, thus, erectile tissue. Additional research is needed to clarify the histologic nature of the glans with inter- and intraindividual variations of the tissue in the glans.

In conclusion, this study shows that implementing the histology of the clitoris and penis in histology teaching can be accomplished with relative ease and efficiency while meeting the interest of second-year medical students.

6. Personal Contributions

I co-authored a literature review to describe the current state of research on the clitoris required for the introduction of the Maurice Chalumeau Centre for Sexual Sciences research grant application for a study on the functional architecture of the clitoris. The research grant application was a collective effort of Dr Jasmine Abdulcadir, PhD candidate Maéva Badré, Dr Céline Brockmann, Dr Christophe Lamy, Professor Marie-Luce Piallat, and Dr Priscilla Soulié.
After the successful obtention of the research grant, I contributed to the update of the histology teaching manual. The study on the histology teaching update was conceptualized by Dr Jasmine Abdulcadir, Dr Céline Brockmann, Dr. Priscilla Soulié and me. Under the supervision of Dr. Priscilla Soulié, I digitalized the histology sections and wrote the description of the sections presented in histology class which can be found in Appendix 2. I have also designed and drawn the schematic illustration visible in Figure 11. Under the supervision of Dr Jasmine Abdulcadir I conceived and analyzed the survey and drafted the present manuscript.

7. References

1. Di Marino V, Lepidi H. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 17 janv 2022]. Disponible: http://link.springer.com/10.1007/978-3-319-04894-9

2. Levin RJ. The Clitoris—An Appraisal of its Reproductive Function During the Fertile Years: Why Was It, and Still Is, Overlooked in Accounts of Female Sexual Arousal. Clinical Anatomy. 2020;33(1):136-45.

3. University Hospital, Rouen. Clitoris Potential Analgesic Function Research by Pregnant Women : Feasibility Study [En ligne]. clinicaltrials.gov; sept 2020. Rapport no NCT04257318. Disponible: https://clinicaltrials.gov/ct2/show/NCT04257318

4. Whipple B, Komisaruk BR. Analgesia produced in women by genital self-stimulation. J Sex Res. janv 1988;24(1):130-40.

5. Di Marino V, Lepidi H. Structure of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 39-55. Disponible: https://doi.org/10.1007/978-3-319-04894-9_5

6. Di Marino V, Lepidi H. Microscopic Study of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 57-66. Disponible: https://doi.org/10.1007/978-3-319-04894-9_6

7. [En ligne]. Colecchia M, Bertolotti A. Penis, Normal Histology | SpringerLink; 2019 [cité le 6 avr 2023]. Disponible: https://link.springer.com/referenceworkentry/10.1007/978-3-030-41894-6_4894#Sec16187

8. Di Marino V, Lepidi H. Physiology of Cavernous and Spongy Tissues. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 67-70. Disponible: https://doi.org/10.1007/978-3-319-04894-9_7

9. Cubilla AL, Piris A, Pfannl R, Rodriguez I, Agüero F, Young RH. Anatomic Levels: Important Landmarks in Penectomy Specimens: A Detailed Anatomic and Histologic Study Based on Examination of 44 Cases. The American Journal of Surgical Pathology. août 2001;25(8):1091.

10. Tappy EE, Carrick KS, Ramirez DMO, Sawyer P, Corton MM. Anatomic Relationships of the Clitoral Body, Bulbs of the Vestibule and Urethra. Am J Obstet Gynecol. 22 févr 2023;S0002-9378(23)00112-6.

11. Kobelt GL. Die männlichen und weiblichen Wollust-Organe des Menschen und einiger Säugethiere in anatomisch-physiologischer Beziehung. Emmerling; 1844. 88 p.

12. Shih C, Cold CJ, Yang CC. The Pars Intermedia: An Anatomic Basis for a Coordinated Vascular Response to Female Genital Arousal. The Journal of Sexual Medicine. Elsevier; 1 juin 2013;10(6):1526-30.

13. [En ligne]. Cutaneous corpuscular receptors of the human glans clitoris: descriptive characteristics and comparison with the glans penis - PubMed; [cité le 4 avr 2023]. Disponible: https://pubmed.ncbi.nlm.nih.gov/23692408/

14. Drake RL. Gray's anatomy for students. 4th ed. Philadelphia, PA : Elsevier; 2020. 1153 p.

15. Coppola A, Gallotti P, Choussos D, Pujia A, Montalcini T, Gazzaruso C. Association between clitoral tissue perfusion and female sexual dysfunction in healthy women of reproductive age: a pilot study. Int J Impot Res. mars 2020;32(2):221-5.

16. Gordon V, Rowe J, Grubb L, Lewis A, Johnson K, Segars L, et al. Mapping a Danger Zone of the Dorsal Nerve of the Clitoris: Implications in Female Cosmetic Genital Surgery. Plast Reconstr Surg. 1 nov 2021;148(5):1005-10.

17. Kelling JA, Erickson CR, Pin J, Pin PG. Anatomical Dissection of the Dorsal Nerve of the Clitoris. Aesthetic Surgery Journal. 14 avr 2020;40(5):541-7.

18. Motzko M, Glueck E, Holland B, Abraham C, Surek C, Draper MS, et al. "Depth of the dorsal nerve of the clitoris: Implications for cosmetic and urogynecologic surgery." Journal of Plastic, Reconstructive & Aesthetic Surgery. 1 sept 2022;75(9):3628-51.

19. Peters B, Ndumele A, Uloko MI. Clinical implications of the historical, medical, and social neglect of the clitoris. The Journal of Sexual Medicine. 31 mars 2023;20(4):418-21.

20. Moszkowicz D, Alsaid B, Bessede T, Zaitouna M, Penna C, Benoit G, et al. Neural supply to the clitoris: immunohistochemical study with three-dimensional reconstruction of cavernous nerve, spongious nerve, and dorsal clitoris nerve in human fetus. J Sex Med. avr 2011;8(4):1112-22.

21. Costello AJ, Brooks M, Cole OJ. Anatomical studies of the neurovascular bundle and cavernosal nerves. BJU Int. nov 2004;94(7):1071-6.

22. Walsh PC, Lepor H, Eggleston JC. Radical prostatectomy with preservation of sexual function: anatomical and pathological considerations. Prostate. 1983;4(5):473-85.

23. Jackson LA, Hare AM, Carrick KS, Ramirez DMO, Hamner JJ, Corton MM. Anatomy, histology, and nerve density of clitoris and associated structures: clinical applications to vulvar surgery. American Journal of Obstetrics and Gynecology. 1 nov 2019;221(5):519.e1-519.e9.

24. Vieira-Baptista P, Lima-Silva J, Preti M, Xavier J, Vendeira P, Stockdale CK. G-spot: Fact or Fiction?: A Systematic Review. Sexual Medicine. 1 oct 2021;9(5):100435.

25. Yang CC, Cold CJ, Yilmaz U, Maravilla KR. Sexually responsive vascular tissue of the vulva. BJU Int. avr 2006;97(4):766-72.

26. Hines TM. The G-spot: A modern gynecologic myth. American Journal of Obstetrics and Gynecology. 1 août 2001;185(2):359-62.

27. Jannini EA, Whipple B, Kingsberg SA, Buisson O, Foldès P, Vardi Y. Who's Afraid of the G-spot? The Journal of Sexual Medicine. 1 janv 2010;7(1, Part 1):25-34.

28. Jannini EA, Buisson O, Rubio-Casillas A. Beyond the G-spot: clitourethrovaginal complex anatomy in female orgasm. Nat Rev Urol. sept 2014;11(9):531-8.

29. Chaperon S, Fillod O. Idées reçues sur le clitoris: Histoire et anatomie politique d'un organe méconnu. Le Cavalier Bleu; 2022.

30. [En ligne]. Prostate-induced orgasms: A concise review illustrated with a highly relevant case study - Levin - 2018 - Clinical Anatomy - Wiley Online Library; [cité le 12 mars 2023]. Disponible: https://onlinelibrary.wiley.com/doi/full/10.1002/ca.23006

31. Chevalley M. État des lieux des connaissances de l'anatomie et de la physiopathologie du clitoris chez les médecins en France, en ligne]. 2021 [cité le 20 sept 2022]. Disponible: http://theses.unistra.fr/ori-oai-search/notice.html?id=uds-ori-206865&printable=true

32. Aerts L, Rubin RS, Randazzo M, Goldstein SW, Goldstein I. Retrospective Study of the Prevalence and Risk Factors of Clitoral Adhesions: Women's Health Providers Should Routinely Examine the Glans Clitoris. Sex Med. juin 2018;6(2):115-22.

33. [En ligne]. Cytomine; [cité le 23 mai 2023]. Disponible: https://cytomine.unige.ch/#/

34. O'Connell HE, Sanjeevan KV, Hutson JM. ANATOMY OF THE CLITORIS. Journal of Urology. oct 2005;174(4 Part 1):1189-95.

35. [En ligne]. Cours Bachelor de médecine - Histoire des organes génitaux féminins - Sciences, Sexes, Identités - UNIGE; 15 févr 2018 [cité le 22 mai 2023]. Disponible: https://www.unige.ch/ssi/pedagogie/formations-liees/5-cours-2e-bachelor-de-medecine/

36. [En ligne]. TP d'anatomie et histologie - 2e Bachelor Médecine - Sciences, Sexes, Identités - UNIGE; 21 nov 2022 [cité le 22 mai 2023]. Disponible: https://www.unige.ch/ssi/pedagogie/formations-liees/tp-danatomie-et-histologie/

37. Abdulcadir J, Dewaele R, Firmenich N, Remuinan J, Petignat P, Botsikas D, et al. In Vivo Imaging–Based 3-Dimensional Pelvic Prototype Models to Improve Education Regarding Sexual Anatomy and Physiology. The Journal of Sexual Medicine. 1 sept 2020;17(9):1590-602.

38. [En ligne]. PROFILES - Faculté de médecine - UNIGE; 12 août 2019 [cité le 23 mai 2023]. Disponible: https://www.unige.ch/medecine/fr/enseignement1/bachelor-et-master-en-medecine-humaine/efmh-1/profiles/

39. Attwood F. Sexed Up: Theorizing the Sexualization of Culture. Sexualities. févr 2006;9(1):77-94.

40. Olímpio LM, Spessoto LCF, Fácio FN. Sexual health education among undergraduate students of medicine. Transl Androl Urol. avr 2020;9(2):510-5.

41. Ariffin F, Chin KL, Ng C, Miskan M, Lee VK, Isa MR. Are medical students confident in taking a sexual history? An assessment on attitude and skills from an upper middle income country. BMC Research Notes. 17 juin 2015;8(1):248.

42. Beebe S, Payne N, Posid T, Diab D, Horning P, Scimeca A, et al. The Lack of Sexual Health Education in Medical Training Leaves Students and Residents Feeling Unprepared. The Journal of Sexual Medicine. 1 déc 2021;18(12):1998-2004.

43. Meystre-Agustoni G, Jeannin A, De H, Dubois-Arber F. Talking about sexuality with the physician: are patients receiving what they wish? Swiss Medical Weekly. 28 févr 2011;141(0910):w13178-w13178.

8. Appendix

8.1 Appendix 1: Review of the Literature on the Clitoris

The literature review found further below was part of the introduction of a research grant application for a study on the functional architecture of the clitoris «Detailed functional architecture of the clitoris». The grant was obtained in 2022 and will fund the PhD research project of Maeva Badré directed byProfessor Marie-Luce Piallat and under the supervision of a multidisciplinary team composed by Dr Jasmine Abdulcadir, Dr Céline Brockmann, Dr Christophe Lamy, , Dr Priscilla Soulié.

8.1.1 Methodology

The database Pubmed was searched using the following keywords: “anatomy AND clitoris”, “histology AND clitoris”, “innervation AND clitoris”, and “vascularization AND clitoris”. Further, the filters *English, French,* and *German* were applied. Case reports and articles focusing on pathologies rather than the physiologic clitoral anatomy and histology were excluded.

The literature research also included the following books:

- Di Marino V, Lepidi H. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 28 déc 2021]. Disponible: http://link.springer.com/10.1007/978-3-319-04894-9
- Schünke M, Schulte E, Schumacher U. Lage, Bau und Innervation des Bulboklitoralorgans. Dans: Prometheus LernAtlas der Anatomie Allgemeine Anatomie und Bewegungssystem . 6e éd. Stuttgart : Thieme; 2022.

Article titles, authors, year of publication, sample size (if it was a dissection study), methodology, and findings of included studies were recorded and summarized in an excel file.

8.1.2 Literature Review

The following literature review was included in the research grant application:

Vascular architecture

The clitoris has a very rich blood supply. Vascularization is crucial for sexual response (lubrication and tumescence)(1). Parasymathic activation during sexual arousal leads to the relaxation of smooth muscles and hence to a generalized vasodilatation of vessels and tumescent tissues (2)*. As discussed further below, many of these tumescent structures as well as their interconnections remain scarcely described or even subject of controversy.*

Pars intermedia (intermediate network)

The pars intermedia contains a venous network first described by Kobelt (1844)(3). However, the structure could not always be identified either at dissection or on MRI by O'Connell et al.(4). Some authors described the pars intermedia as part of the spongy structures (5), others use the terms "pars intermedia" and "corpus spongiosum of the urethra'' interchangeably (6). Several studies found it to be a histologically distinct area that links the cavernous and spongy vascular structures and vascular components of the vulva (7,8). It appears to be responsible for a coordinated vascular response during arousal (8). It corresponds (along with the commissure of the bulbs and the pseudo-commissure of the crura) to the area that some controversially refer to as the "G-spot" (9). Further research is required to describe this area histologically along with its communications with surrounding structures in detail.

Tumescent tissue of the urethra (Corpus spongiosum of the female urethra)

The urethra and clitoris are highly related structures. Both lateral and superior walls of the distal urethra are surrounded by the spongy tissue of the bulbs(10–12)*. Furthermore, there is a second, much less studied type of spongy tissue that surrounds the urethral lumen and micro- and macroscopically differs from the spongy tissue of the bulbs (10). Some authors proposed it might be the anatomical structure corresponding to the "G-spot"(13). Analogous to the corpus spongiosum of the penis, it is sometimes called the "corpus spongiosum of the female urethra" (6). However, this terminology might be incorrect from an embryological point of view since according to Di Marino et al. the corpus spongiosum of the urethra involutes to form the infra-corporeal residual spongy part (ICRSP)(14). The function of the highly developed vascular structure surrounding the urethra is not clear (12). It is mentioned that the urethral wall has a rich innervation(15), but no detailed data about the quantification and distribution of Krause corpuscles and other encapsulated nerve endings is available.*

Infra-corporeal residual spongy part (ICRSP)

The ICRSP is described as an extension of the bulbar commissure and vestige of the foetal corpus spongiosum. It extends from the commissure to the glans and communicates with the clitoral body via the pars intermedia. The ICRSP is histologically different from the spongy tissues of the bulbs or glans (3). The term ICRSP is mentioned in a few textbooks,

such as Anatomic Study of the Clitoris and the Bulbo-Clitoral organ by Di Marino and Lepidi, and its existence is still debated (3,5). The function of the ICRSP in the sexual response is largely unknown.

Bulbar commissure and pseudo-commissure

The bulbar commissure is a spongy tissue with close connections to the urethra (14). It communicates with the clitoral body and the ICRSP via the pars intermedia; the connection is particularly dense between the bulbar commissure and the angle of the clitoral body (3,16,17). The detailed nature of these communications remains unclear. The pseudo-commissure (or retro-crural fascia) is a substantially understudied fibrous structure that covers the dorsal surface of the crura to protect blood vessels and nerves before reaching the cavernous tissue. It contains Pacini corpuscules (14) and might play an important role in the sexual response since it, as previously mentioned, anatomically corresponds to the area of the putative "G-spot" (9).

Tunica Albuginea of the cruras and tunica of the bulbs

The tissue of the corpus cavernosum of the clitoris is organised such as to make an erection possible. It is surrounded by a thick and resistant fibrous envelope, rich in collagen : the tunica albuginea. The layer surrounding the corpus spongiosum is thinner, which does not allow for an actual erection but for tissue tumescence (16). More detailed description of the molecular composition of the tunica albuginea of the cruras and of the tunica of the bulbs would be useful in surgical contexts, for regenerative medicine for instance.

Neural supply of the clitoris

The clitoris is innervated by the sensory dorsal nerve of the clitoris (DNC) and the vegetative cavernous nerve (CN). The bulbs receive their sensory innervation from the bulbar nerve and vegetative innervation from the spongious nerve (SN) (a branch of the CN), and the "bulbar vegetative fibres"(2). In the last 15 years there has been an increase in studies describing the dorsal nerve of the clitoris. However, there is a paucity of literature describing the CN, the bulbar nerve and only one study published on pubmed mentions the SN (18). The CN is involved in the neural control of vasocongestion and lubrication during sexual arousal. Therefore, injury to the CN, for example during vaginal sling procedures for stress urinary incontinence, may impact sexual function (19)*. The CN of the penis is described in numerous studies and thus allowed to improve nerve-sparing surgery (20,21). A 3D reconstruction of the CN and SN of the clitoris were performed but only based on foetal specimens(18). DiMarino et al. suggest that distal communications between the somatic and autonomic components of bulbar innervation might exist* (2)*.*

8.1.3 References of the Literature Review

1. Coppola A, Gallotti P, Choussos D, Pujia A, Montalcini T, Gazzaruso C. Association between clitoral tissue perfusion and female sexual dysfunction in healthy women of reproductive age: a pilot study. Int J Impot Res. mars 2020;32(2):221-5.

2. Di Marino V, Lepidi H. Innervation of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 71-80. Disponible: https://doi.org/10.1007/978-3-319-04894-9_8

3. Di Marino V, Lepidi H. Microscopic Study of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 57-66. Disponible: https://doi.org/10.1007/978-3-319-04894-9_6

4. O'Connell HE, Sanjeevan KV, Hutson JM. ANATOMY OF THE CLITORIS. Journal of Urology. oct 2005;174(4 Part 1):1189-95.

5. Van Turnhout AAWM, Hage JJ, van Diest PJ. The female corpus spongiosum revisited. Acta Obstetricia et Gynecologica Scandinavica. 1995;74(10):767-71.

6. Puppo V. Anatomy and physiology of the clitoris, vestibular bulbs, and labia minora with a review of the female orgasm and the prevention of female sexual dysfunction. Clin Anat. janv 2013;26(1):134-52.

7. Shih C, Cold CJ, Yang CC. The Pars Intermedia: An Anatomic Basis for a Coordinated Vascular Response to Female Genital Arousal. The Journal of Sexual Medicine. 1 juin 2013;10(6):1526-30.

8. Ostrzenski A. Anatomy of the bulbus vestibuli: A cadaveric study. Ann Anat. janv 2021;233:151588.

9. Abdulcadir J, Dewaele R, Firmenich N, Remuinan J, Petignat P, Botsikas D, et al. In Vivo Imaging–Based 3-Dimensional Pelvic Prototype Models to Improve Education Regarding Sexual Anatomy and Physiology. The Journal of Sexual Medicine. 1 sept 2020;17(9):1590-602.

10. Yang CC, Cold CJ, Yilmaz U, Maravilla KR. Sexually responsive vascular tissue of the vulva. BJU Int. avr 2006;97(4):766-72.

11. O'Connell HE, Hutson JM, Anderson CR, Plenter RJ. Anatomical relationship between urethra and clitoris. Journal of Urology. WoltersKluwer; juin 1998;159(6):1892-7.

12. Di Marino V, Lepidi H. Relationships of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 113-22. Disponible: https://doi.org/10.1007/978-3-319-04894-9_13

13. Gichangi P. CONTROVERSY ABOUT EMBRYOGENESIS AND ORGANISATION OF HUMAN FEMALE URETHRA: A REVIEW. East Afr Med J. oct 2014;91(10):341-6.

14. Di Marino V, Lepidi H. Structure of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 39-55. Disponible: https://doi.org/10.1007/978-3-319-04894-9_5

15. Di Marino V, Lepidi H. The Bulbo-clitoral Organ in the Sexual Act. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 127-32. Disponible: https://doi.org/10.1007/978-3-319-04894-9_15

16. Di Marino V, Lepidi H. Physiology of Cavernous and Spongy Tissues. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 67-70. Disponible: https://doi.org/10.1007/978-3-319-04894-9_7

17. Di Marino V, Lepidi H. The Vessels of the Bulbo-clitoral Organ. Dans: Di Marino V, Lepidi H, rédacteurs. Anatomic Study of the Clitoris and the Bulbo-Clitoral Organ [En ligne]. Cham : Springer International Publishing; 2014 [cité le 5 mars 2022]. p. 95-9. Disponible: https://doi.org/10.1007/978-3-319-04894-9_10

18. Moszkowicz D, Alsaid B, Bessede T, Zaitouna M, Penna C, Benoit G, et al. Neural supply to the clitoris: immunohistochemical study with three-dimensional reconstruction of cavernous nerve, spongious nerve, and dorsal clitoris nerve in human fetus. J Sex Med. avr 2011;8(4):1112-22.

19. Bekker MD, Hogewoning CRC, Wallner C, Elzevier HW, DeRuiter MC. The Somatic and Autonomic Innervation of the Clitoris; Preliminary Evidence of Sexual Dysfunction after Minimally Invasive Slings. The Journal of Sexual Medicine. 1 juin 2012;9(6):1566-78.

20. Walsh PC, Lepor H, Eggleston JC. Radical prostatectomy with preservation of sexual function: anatomical and pathological considerations. Prostate. 1983;4(5):473-85.

21. Caruso S, Cianci A, Malandrino C, Cavallari L, Gambadoro O, Arena G, et al. Ultrastructural and quantitative study of clitoral cavernous tissue from living subjects. J Sex Med. juin 2011;8(6):1675-85.

8.2 Appendix 2: Updated Teaching Manual of the Histology Class (in French)

The following parts were added to the existing teaching manual along with the schematic illustrations of Figure 6 to allow students to prepare for the class:

Clitoris
TOPOGRAPHIE GÉNÉRALE
Le clitoris est constitué de 2 piliers (corps caverneux) qui fusionnent pour former le corps (ascendant, coude, et descendant) du clitoris et se terminent dans le gland. Les 2 bulbes (corps spongieux) qui chevauchent l'urètre distal, sont connectés au corps via un réseau vasculaire, la pars intermédia
- Le gland du clitoris est partiellement, parfois entièrement, recouvert du prépuce. Il contient de nombreux mécanorécepteurs.
- Les corps caverneux fusiformes (présents dans les piliers et le corps) sont entourés par une albuginée épaisse et contiennent des sinus veineux très irréguliers, entre lesquels se trouvent de nombreux faisceaux de musculature lisse.
- Le corps spongieux des bulbes (qui n'est pas visible sur ces coupes) est similaire aux corps caverneux, mais présente des sinus plus ronds/ovales et plus grands que ceux des corps caverneux. Contrairement aux corps caverneux, il n'est pas entouré d'une albuginée épaisse mais d'une tunique fine.

HISTOLOGIE
Remarque : Il est très diffcile sur ces coupes de faire le lien entre l'anatomie et l'histologie du clitoris. Concentrez votre observation sur les structures et tissus histologiques, caractéristiques du clitoris.

- Coupe SGF 21 – Clitoris (corps)
Il s'agit d'une coupe oblique du clitoris au niveau de l'extrémité du corps descendant. Observez les deux corps caverneux : les cavités sinusoïdes (ou sinus veineux) sont tapissées par des cellules endothéliales et entourées d'une couche irrégulière de cellules musculaires lisses et d'un tissu conjonctif irrégulier. On trouve aussi des cellules musculaires lisses au sein du tissu conjonctif. Un tissu conjonctif dense, l'albuginée, entoure chaque corps caverneux. A la jonction entre les 2 corps caverneux, ces tissus fusionnent pour former un septum discontinu, le septum médian.
Dans le tissu conjonctif, on observe de nombreux nerfs et de nombreux mécanorécepteurs, les corpuscules de Pacini, très reconnaissables à leur forme ovoïde en "pelures d'oignon"

- Coupe SGF 22 – Clitoris (gland), immuohistochimie S100, contre-coloration hémalun (À observer par curiosité)
Il s'agit d'une coupe longitudinale dans le gland du clitoris avec le prépuce des deux côtés. L'ensemble est recouvert d'un épithélium pluristratifié aplati kératinisé.
Le tissu conjonctif du gland est dense et irrégulier, il contient de nombreux vaisseaux et nerfs, ainsi que des lacunes veineuses.

Le marquage de la protéine S100 permet de mieux visualiser les structures nerveuses. Notez que les faisceaux nerveux sont organisés en paire, ce qui correspond aux 2 nerfs dorsaux du clitoris.
Dans le tissu conjonctif juste sous-épithélial, on peut observer les corpuscules sensoriels génitaux plus fortement colorés que les nerfs. Ils ont une forme ronde ou ovoïde et sont entourés d'une capsule. Notez aussi la différence en termes de densité des corpuscules sensitifs entre le gland du clitoris et le prépuce.
Cette coupe ne permet pas de voir les corps caverneux.

Pénis
Le pénis est constitué de deux corps caverneux et d'un corps spongieux (bulbe, corps spongieux de l'urètre et gland).

Coupe SGM 15 – Coupe de gland (HE)
Observez l'épithélium pluristratifié aplati et faiblement kératinisé qui recouvre le gland du pénis. Le tissu conjonctif sous-épithélial est riche en vaisseaux. Au centre de la coupe on retrouve la partie distale de l'urètre pénien. Il est bordé par un épithélium stratifié aplati non kératinisé.
Autour de l'urètre, on peut observer le corps spongieux : ses cavités sinusoïdes sont tapissées de cellules endothéliales et entourées de cellules musculaires lisses et de tissu conjonctif.
(Comparer avec les corps caverneux du clitoris).

Coupe SGM 16 – Coupe de gland (immunohistochimie S100, contre- coloration hémalun)
Le marquage de la protéine S100 permet de mieux visualiser les structures nerveuses.
On peut observer de nombreux nerfs dans le tissu conjonctif sous-épithélial et dans le corps spongieux du gland. Repérez les fines fibres nerveuses libres et les structures très bien marquées qui sont les corpuscules sensoriels génitaux. Repérez l'épaississement focal de l'épithélium de revêtement qui correspond à un carcinome.

8.3 Appendix 3: Original Answers of the Survey (in French)

The following answers were obtained in the online survey:

- Partie de l'anatomie indispensable à une bonne compréhension de l'anatomie génital féminin.
- Parce que le clitoris fait partie de l'anatomie de la femme, il est important d'étudier toutes les parties
- Il n'y a aucune logique à aborder les corps érectiles (spongieux/caverneux) chez l'homme, mais pas chez la femme.
- Permet de voir la spécifité histologie du clitoris et du pénis
- C'est sympa d'avoir la chance d'avoir un cours complet sur tout et pas s'arrêter a des choses de bases
- Ce sont des organes à part entière qui doivent être étudiés de la même façon que les autres organes vus en cours
- Il est important de regarder toutes les parties du corps. Cela fait partie des corps humains. De la même façon qu'on regarde l'appendice je trouve bien de rajouter le clitoris et le penis au cursus de médecine.
- C'est vraiment crucial d'ajouter ces coupes et d'agrandir notre connaissance sur ce sujet
- Pour moi ce n'est même pas normal qu'il n'y en ait ps eu au préalable. Ce sont des organes importants.
- On en parle peu, c'est bien de pouvoir le voir plus en détail
- Ils font partie du systeme genital
- Ces organes font partie du système génital, il est donc logique d'avoir la possibilité de les étudier afin de comprendre leur fonctionnement.
- Cest intéressant de voir! Afin de pouvoir voir les structures et faire le lien avec les fonctions !
- Pour la chirurgie ou les pathologies liées au clitoris
- Les connaissances en générales ne font pas de mal. Les liens avec les fonctions sont intéressants. Actuellement dans mes études, je ne sais pas encore si les connaissances d'histologies m'aideront plus tard pour comprendre des pathologies. Si oui, ces lames sont très importantes, si non, elles ont une importance moyenne.
- C'est toujours intéressant d'avoir des connaissances sur des organes qui sont pas très bien connus pour la majorité des gens.
- Particulièrement important pour le clitoris car il y a un grand manque d'informations sur cette organe dans la littérature et dans les livres.
- Cela aide à comprendre leur fonctionnement et il n'y a pas de raison que l'on étudie le reste des tissus et pas le clitoris ou le penis.
- Plus il y a de coupes, plus il y a de connaissances :)👍🏻
- C'est très intéressant d'en apprendre plus sur une structure dont nous ne parlons que très peu
- Très intéressant

- Ça amène des précisions intéressantes
- Ca permet de mieux comprendre l'organisation de ces organes
- ça permet d'étudier le système reproducteur en entier ce qui est très intéressant
- Très bonne initiative. Les guides du TP sont complets
- C'est important de savoir le plus possible sur le plus d'organes possibles
- RAS
- Connaître les différences histologiques de chaque partie d'un organe permet une meilleure compréhension de celui-ci donc plus on a de coupes mieux c'est.
- permet de voir concrètement histologiquement les ressemblances entre le deux. De mettre en évidence la capacité érectile des deux organes
- Alors l'histologie jsp En anat c'etait utile pour voir leur differentes formes/caracteristiques/variations et innervations. En histo j'ai pas vrm compris le but A voir dans 10 ans, apres toutes les etudes Bisoux
- Très important à mon sens de nous parler du clitoris car il a été un peu mis de côté dans de nombreuses références (livres d'anat,..)
- C'est important de connaître les organes dans leur globalité et d'enlever les tabous pour faire progresser la recherche
- Cela fait partie du système génital et donc ça ne devrait pas être négligé
- Il manque beaucoup de connaissances à ce niveau et il est important d'y attirer l'attention
- Pk ça serais pas important, on est là pour tout apprendre, pas mettre des organes de côtés
- Leurs histologies est très intéressantes