Aesthetic and Functional Female Genital Surgery

Süleyman Eserdağ

Second Edition

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Aesthetic and Functional Female Genital Surgery

***Art of* Female Genital Aesthetics**

The surgeon performing the aesthetic operation should act like a psychologist during the consultations and as an artist while performing the surgical art, remembering that each patient is different from the others.

Dr. Süleyman Eserdağ

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I devote this book to;

My first mentor, my life teacher, my dear mother Alime Eserdağ (1941–2018),

Altruistic, modest, and unique my dear father Ünal Eserdağ,

My biggest supporter in my academic career and my love Dr. Şenay Eserdağ,

My life energy sources, my dear sons; Can Batu and Batuhan.

Foreword

Asking new questions, new possibilities, looking at old problems from a new angle, requires creative imagination and marks a real breakthrough in science. (Albert Einstein)

It is an honor for me, to be able to write a few introductory words in this wonderful book. It is common for doctors to look in a book perhaps for the chapter that we are interested in consulting, because obviously we do not have time for more. However, this story may be very familiar to many readers. At the beginning of this millennium, I remember how in my daily medical practice hundreds of women year after year complained of problems related to well-being and the quality of sexual life. Curiously, I felt limited by not being able to offer them any valid alternative that could at least alleviate them and thus obtain some benefit for them in this regard. Perhaps this was the trigger that made me twist the course of my professional career as a gynecologist and I began my journey towards what we now know as *"Functional and Aesthetic, Regenerative Gynecology."*

Definitely the book that you are about to enjoy is in my opinion one of the most important written works of this new specialty in this century. It complies in each of its chapters with the proposed educational objectives. In a clear and complete way, it not only shows each of the procedures but also allows us the integration of concepts to be able to apply them all in our daily practice.

When the term *"Aesthetic Gynecology"* was introduced in 1996, it only applied to surgical corrections in the genital area. As in all evolution in medicine, it began, with the passing of the years, to emerge innovators that contributed new techniques not only surgical but also (as in my personal case with the laser) minimally invasive and non-invasive procedures to be applied in the office. After 25 years of evolution, a large number of procedures have been developed with not only aesthetic but also regenerative and functional purposes in gynecology, which gave rise to this new specialty.

Today we are living in an unprecedented time, rather exceptional, that will go down in history and that will mark a before and after (due to a pandemic), where the demand for wellness procedures increased in an incredible way. The desire to be well to improve the biological state prevailed over any other desire in the area of health. In the same way, the demand for procedures in Aesthetic, Regenerative and Functional Gynecology is growing almost exponentially. This means that gynecologists have to supply ourselves with information and we must incorporate new tools to be able to face this growing

demand. In this sense, I want to emphasize that this work fills that empty space that we as women's health professionals have.

Regarding the author of this marvel of a book, I just have to say that beyond his vast experience in Aesthetic Gynecology, he is one of the few doctors (if not the only one) in the world who, from the humility that only great people have, has the immense generosity of transmitting absolutely all the information and more as well. Has accumulated experiences, and more than a thousand procedures in the specialty, so as to be able to write and transmit all that world of knowledge that will enrich us for the benefit of our patients. I invite you then to walk the path of Regenerative and Functional Aesthetic Gynecology with the help of Dr. Suleyman Eserdag who will show us how exciting and innovative this concept can mean for our clinical practice. Through each of its pages and each of its chapters, the reader will have a different and attractive feeling, which will go beyond the information they can find in it. I am referring to the passion and motivation that you will find between the lines.

Finally, as a gynecologist dedicated one hundred percent to Regenerative and Functional Aesthetic Gynecology, I would like to convey a message to you and at the same time share a concern with the reader. My message is simple: aging and deterioration is a continuous process that can have consequences on the quality of life. The concern that I want to share with you is that we must be proactive, that is, take action before the symptoms of deterioration occur. For that we have today an innumerable amount of techniques that you will be able to discover in this beautiful written work. I invite you then to enjoy its pages.

OB/GYN & Antiaging Medicine Adrian Gaspar
Mendoza, Argentina

Foreword

The field of female cosmetic genital surgery and non-surgical genital treatments has had a long and controversial past. More recently, it has found grudging acceptance in the fields of gynecology, urogynecology, urology, plastic and cosmetic surgery, and dermatology.

We owe much of the progress to men and women who were willing to face the bows and arrows from their parent organizations and traditionally minded colleagues. These forerunners include Marco Pelosi II, Marco Pelosi III, David Matlock, Michael Goodman, Adrian Gaspar, Otto Placik, Troy Hailparn, Christine Hamori, Heather Furnas, Sejal Desai, Charles Runels, Alexander Bader, Amr Seifeldin, Joao Brito Jaenisch, Clara Santos, Annebelle Ahererra, and Suleyman Eserdag. We owe much to these pioneers to ease the path for others interested in bravely moving forward and helping women worldwide. Pioneers get arrows, settlers get land. For Turkey and Europe, the Middle East, and Asia, Suleyman Eserdag has proven himself to be a formidable leader and educator.

I heard about Suleyman Eserdag from my professional circles, an admittedly tight group of pelvic surgeons, almost a decade ago. His reputation in Turkey as a young and renowned gynecologic surgeon was growing. I first met Suleyman at the International Society of Pelviperineology (ISPP) meeting in Istanbul in the summer of 2015 where I had the privilege of introducing ThermiVa radiofrequency treatments to the edges of Europe. Legends of pelvic reconstructive surgery and founders of ISPP, Peter Petros and Bruce Farnsworth, wanted me to present my office labiaplasty and vaginoplasty techniques as well as my extensive work in transvaginal prolapse repairs. I had the privilege of meeting outstanding Turkish surgeons and Suleyman stood out. Within a year (2016), he was in Laguna Beach, California, side by side with me as we dove into the brand-new world of non-surgical aesthetic gynecology using energy and biologics for the benefit of suffering women. 2015 was the birth year of the exponential growth of energy for gynecologic use with the advent of vaginal lasers and radiofrequency treatments. Adrian Gaspar from Argentina shepherded the tremendous growth and interest in vaginal lasers while I pursued radiofrequency indications. Because of Charles Runels primarily, it was also the birth year of PRP treatments getting worldwide notice. Charles had fought for many years before that to bring his message out but 2015 was the breakout year. He spoke at my very last Congress on Aesthetic Vulvovaginal Surgery (CAVS) meeting in Orlando,

Florida, in September 2015 and the interest in his O-Shot procedure went ballistic. Suleyman was in the middle of all this outburst of creative energy and recognized that for this field to succeed surgical skill had to be at the forefront. So, we tackled labial and vaginal surgery with intensity in my office setting and planted the seed that would blossom into ISAGSS two years later. I shared all my trade secrets in No IV In-Office Awake Genital Surgery. I shared my skills in Hybrid/Venus/Rim Labia Minoraplasty, Medial Curvilinear Labia Majoraplasty, Lateral and Vertical Clitoral Hood reduction, RF Feathering and Resurfacing of labial edges and anal skin tags, Perineoplasty, and full depth Vaginoplasty. I shared my secrets on my office setup and equipment, modifications of Pudendal and Levator Blocks, and use of Lone Star 3715 APS Retractor to allow safe and solo in-office surgeries. I made sure Suleyman would be an expert in ThermiVa and the O-Shot as we did case after case. I knew Suleyman would bring these life-changing procedures to Europe and the world and help thousands of women in the future. I was very proud of my esteemed graduate and encouraged his professional development. He has proven to be a consummate professional and renowned educator and for this I am very grateful. I feel a sense of relief that the surgical techniques I shared with Suleyman will survive and be taught to others.

Now, seven years after we first met, Suleyman has brought together his experience and skills in his book *"Aesthetic and Functional Female Genital Surgery*" now with recent updates. This textbook clearly shows his love and passion for this emerging field and will be a tremendous core source of knowledge. His personalized modifications and approach show a depth of experience from someone in the trenches, working daily to perfect his craft, and not from someone sitting inside an ivory tower having medical students and residents writing chapters from inexperience. I recommend this collection of written insight without reservation with his recent updates a further advance of this field. It is the perfect partner for my own online and onsite training programs that have spanned several decades. I recommend his book to all my grads.

Alinsod Institute for Aesthetic Vulvovaginal Surgery
South Coast Urogynecology,
Laguna Beach, CA, USA

Red M. Alinsod

Preface

With the new millennium, the increase in internet use and the rapid spread of social and digital media have caused significant changes in societies. The desire of women to feel better, the increasing popularity of general antiaging treatments, especially the visual comparison of races in social media, development of energy-based new technologies, and the incredible increase in social awareness are just a few of the factors that accelerate the popularity of female genital operations. The aesthetic operations of the genital area include a range of surgical and non-surgical procedures with a high level of patient satisfaction for cosmetic, reconstructive, and regenerative purposes, providing excellent results when done with the suitable technique and individualized methods. However, when these procedures are done without sufficient knowledge and experience, they can lead to irreversible results in terms of both aesthetic and functional aspects as well as serious legal problems. For this reason, *training is essential before starting practice*. However, this field is not included in the residency training programs of most universities today. Some associations, organizations, or individuals working with special status are trying to fill this gap. International Society of Aesthetic Genital Surgery and Sexology (*ISAGSS*), which I established in 2017 and still continues to provide hands-on training under my leadership in different parts of the world, uniquely combines aesthetic genital surgery with sexual well-being.

Another important issue is that scientific evidence-based data on genital aesthetic procedures are still insufficient. For this reason, energy-based technologies used in applications and treatments become the target of organizations such as *WHO, FDA,* and *ACOG* from time to time. I hope that as the evidence-based data on genital aesthetic operations increase, this field will soon reach a much stronger position in the scientific arena.

For the physician who intends to work in the field of genital aesthetics, it is essential to have the ability to empathize with his/her patient, not to compromise on ethical principles, and to draw his/her own boundaries with the motto "*first, do no harm.*" The operation demands and expectations of the patients can be quite different from each other. *There is no one-size-fits-all in cosmetic surgeries.* The technique to be used in the operation in line with the experience of the physician should be applied according to the patient's wishes and the condition of the tissue.

As stated in the ACOG declaration published in 2020, some sexual dysfunctions can also be corrected by functional genital surgeries. However, for this, the physician must have sufficient training in the fields of sexual

dysfunction and psychiatric disorders, and when necessary, should not hesitate to ask for consultation from different disciplines.

The book *"Aesthetic and Functional Female Genital Surgery"* is blended with nearly 20 years of knowledge and experience in the field of genital area aesthetics, techniques from the most up-to-date literature, and a multidisciplinary perspective. The work, which is the product of the coronavirus pandemic period in 2020, consists of 23 separate sections, and the images in its content were selected from more than 20,000 photographs from over a 20-year-period in this field. Procedures not yet included in the literature, e.g., labia minora asymmetry classification, Venus vaginal aesthetics with Eserdag concept, neolabiaplasty (re-labium formation), inverted-U hoodoplasty, hat trimming in hoodoplasty, Juicy Vagina Syndrome, rooster comb appearance in perineum, painful hymen as a cause of superficial dyspareunia, square mattress suturing in labiaplasty, office labiaplasty, majoraplasty with adipose tissue reduction, and teardrop incision in majoraplasty, as well as procedures of my techniques such as the Inverted-Y plasty procedure in clitoral hoodoplasty operations and primary repair of hymen with vestibulo-introital tightening technique (VITT) in the literature are also discussed in detail.

The book includes basic to advanced methods of aesthetic, reconstructive, and regenerative surgeries and non-surgical applications related to female genital organs and has been enriched with consent forms in the last part. Before you start reading, I recommend that you test yourself with the aesthetic genital surgery MCQ in the Flashcards, or at least take a look. After you finish reading the book, you can return to the exam questions.

My aim is that the physicians who have devoted themselves to this field and whose number is increasing rapidly every year can gain knowledge from the most basic level to advanced techniques in *this happy journey*. I hope that this work, in which I generously share all the methods I apply to my patients, will be beneficial for the global medical community.

Istanbul, Turkey Süleyman Eserdağ

Contents

About the Author

Süleyman Eserdag The author was born in Turkey in 1969 and after completing his primary and secondary education, he graduated from Izmir Science High School in 1986. After graduating from the Medical School of Dokuz Eylül University, he began residency program in Ankara Zekai Tahir Burak Women's Health Educational and Research Hospital, the largest educational maternity hospital in Turkey. He completed his residency education in 1997 and became a gynecologist and obstetrician. Later, he worked as a Gynecology and Obstetrics Specialist and also a Chief Physician at the Kazan State Hospital, which was his first place of appointment. In 2002, he was re-appointed to Zekai Tahir Burak Women's Health Education and Research Hospital and worked in the perinatology, menopause, in vitro fertilization, and infertility clinics of this hospital. In this period, he opened his first clinic named "HERA Clinic" in Ankara. In 2008, he resigned from the hospital and started working full-time in his office.

He, in 2014, passed the board exam organized by the European Society for Sexual Medicine (ESSM) and the European Federation of Sexology (EFS) to become Turkey's one of the first "Fellow of European Committee of Sexual Medicine" (FECSM) gynecologists.

In 2015, he established the HERA Vaginismus Treatment, Education and Research Association, the first national non-governmental organization in the field of vaginismus. He trained physicians and health professionals within the scope of this association.

He has received training from many leaders in the field during his vaginismus and genital aesthetics journey that started in the early 2000s. Prof Adam Ostrzenski (Florida/USA-2011), ECAMS

(Athens/Greece-2015), and Dr. Red Alinsod (California/USA-2016) are some of the mentors or organizations that he received training from.

He was accepted as a senior faculty member at ECAMS (European College of Aesthetic Medicine and Surgery) based in Ireland in 2015. Between 2015 and 2017, he gave hands-on genital aesthetics courses in Istanbul and Vienna. In 2017, he left this faculty and established an international association called ISAGSS (International Society of Aesthetic Genital Surgery and Sexology). In this association within the scope, Turkey, Northern Cyprus, India, Pakistan, UAE, Azerbaijan, Philippines and Indonesia in as many countries, has provided more than 1000 physicians one-to-one training. In addition, he organized the International Reconstructive Aesthetic Genital Surgery and Sexology (RAGSS) congresses in Istanbul in 2018 and 2019.

In 2020, he published the book Sexual Medicine and Genital Aesthetics, which he shared the editorship with two colleagues. This book is the first book published in Turkey in the field of sexual medicine and genital aesthetics.

In 2021, he published the first edition of this book Female Aesthetic and Functional Genital Surgery, both in Turkish and in English.

Inverted-Y plasty procedure in clitoral hoodoplasty operations and vestibulo-introital tightening technique (VITT) in hymenoplasty have been introduced into the literature by Dr. Eserdag. Many national and international studies of him on vaginismus and dyspareunia have also been published in peer-reviewed journals.

He established four private clinics in Istanbul, Ankara, and İzmir under the roof of "HERA Clinic." Now, he is the director of these clinics and accepts the patients in his private clinic in Istanbul. At the same time, he continues giving lectures and trainings within the scope of the ISAGSS and has been invited to many national and international congresses. He is married and father of two boys.

Part I

Introduction and General Instructions

1 Introduction to the Art of Aesthetic and Functional Female Genital Operations

The ladder of the peak of civilization is art.

Mustafa Kemal Atatürk, Founder of the Republic of Turkey

The interest of women in their genital areas, the social meanings they attribute to this region, and the genital practices applied have continued from the time of the Pharaohs to the present. Traditional genital area decorations, painting, tattoos, piercing-like jewelry, procedures to reduce or enlarge tissues, and operations such as genital circumcision are just some of these practices.

When we come to today, the widespread use of the internet, the increase in pornographic video and visual sharing, the rapidly developing social media culture, the increase of our social interest in the visual, and our visual comparison race have increased the interest in genital operations, especially since the early 2000s. In addition, associating bad marriages with sexuality, the increase in the expectations of couples in sexual intercourse, the desire of women to feel better psychologically and sexually, and the increase in antiaging treatments are among the reasons for patients to prefer *"designer vagina"* operations. The development of correct surgical techniques, different suture options, the comfort provided by various anesthesia methods, the physicians who have developed themselves in this field, and the training given by some associations are among the other important factors that enable the development of Aesthetic Genital Surgery (AGS).

The widespread use of genital shaving—a religious requirement in Muslim societies—in Western societies has been one of the factors that has increased the importance of the genital area by eliminating the *"vulvar camouflage."* The emergence of genital fashion trends in the form of Brazilian waxes and Hollywood waxes in Western society are also signs of increased interest in vulva visuality.

Concerns include *"Are genital aesthetic surgeries necessary, should they be performed, are they medically indicated, or can they cause permanent medical damage by causing injuries in the female genitals?"* mainly from ACOG (American College of Obstetricians and Gynecologists), RCOG (Royal College of Obstetricians and Gynaecologists), SOGC (Society of Obstetricians and Gynaecologists of Canada), FDA (American Food and Drug Association), and feminist organizations that think they will turn women into sexual objects. However, despite all the criticism, *Pandora's box* has been once opened, and AGS operations in almost all regions of the world are a rapidly increasing trend with intense patient demands. However, AGS operations, which are not included in plastic surgery or gynecology and obstetrics residency training, resulted in many

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complications and malpractice suits when physicians without training, only personal intuitions, attempted these surgeries.

Although there are some associations and organizations that provide training in this field today, the adequacy and quality of the training provided is a matter of debate. It is necessary to include these trainings in residency trainings in branches such as gynecology, plastic surgery, urology, and dermatology. However, considering that it is not easy to include such training programs in the existing curriculum, for now the only solution seems to be special certificate programs.

If we consider that all aesthetic operations are included in the "agreement for work" principles in our laws, the surgeon should:

- be trained in the basic principles of aesthetic surgery, genital aesthetic surgical techniques, energy-based treatments such as laser, radiofrequency, regenerative applications, and sexology before applying,
- select the patients meeting the right indications,
- plan operations well from the start, and
- obtain consent forms after giving detailed information before the operation.

1.1 Etymology and Terminology

The word aesthetics comes from the word *"aisthetikos"* in the ancient Greek language. It has meanings such as aesthetic, sensitive, sensual, related to perception. It is used synonymously with "cosmetics."

Genital aesthetic operations include some surgical and non-surgical applications and are called by different names: vulvovaginal plastic surgery, genitoplasty, cosmetic gynecology, cosmetoplastic gynecology, women's cosmetic plastic genital surgery, aesthetic genital surgery, etc.

Although the term "vaginal rejuvenation" is used for vaginal rejuvenation, vaginoplasty, and perineoplasty, the boundaries of this term have not been defined. It is generally regarded as an "*umbrella term"* that includes all aesthetic and functional procedures performed for optimal correction and repair of the vagina and its neighboring organs [1]. This term is not recommended for use because the name is registered.

"Pudendum" is synonymous with *"pudenda"* and means "external genital organs," especially the vulva. Pudendum, which is derived from the Latin verb *"to be ashamed, shamed part of something"* first appeared in English in the fourteenth century.

Nympha (or nymph) is synonymous with "labium minus pudendi" and means *"bride, young girl, young woman"* in ancient Greek. Nymphs were sometimes beloved by many and dwelt in specific areas related to the natural environment such as mountains, forests, springs. Plural form of nympha is referred to as "*Nymphae"* (labia minora).

"Vulvoplasty" is a general name and defines the surgical procedures to construct, repair, or remodel a vulva. Sometimes, it is also used to define gender-affirming surgery for transgender and nonbinary individuals who are designated male at birth.

Plastic surgery is a specialty in the fields of alteration ("change"), restoration ("architectural renewal, putting together what is broken"), and reconstruction ("replacing and rebuilding what is torn down") of the human body. It includes cosmetic, reconstructive surgery, and newly regenerative categories (Fig. 1.1). Reconstruction aims at the functional restructuring of congenital or acquired defects, while cosmetic (=aesthetic) aims to enhance the appearance. The word plastic is derived from the Greek word "*plastikē"* and is used to mean "*reshaping."* For example, "labiaplasty" means aesthetic operation of the genital labia, "vaginoplasty" means repairing the anterior and/or posterior segments of the vagina, and "hymenoplasty" means repair and reconstruction of the hymen.

Regenerative medicine deals with the process of replacing, engineering, or regenerating human or animal cells, tissues or organs to restore or establish normal function. It has the potential to heal or replace tissues and organs damaged by age, disease, cancer, or trauma and normalize congenital anomalies. Regenerative medicine, an interdisciplinary field that applies engineering and life science principles to promote regenera-

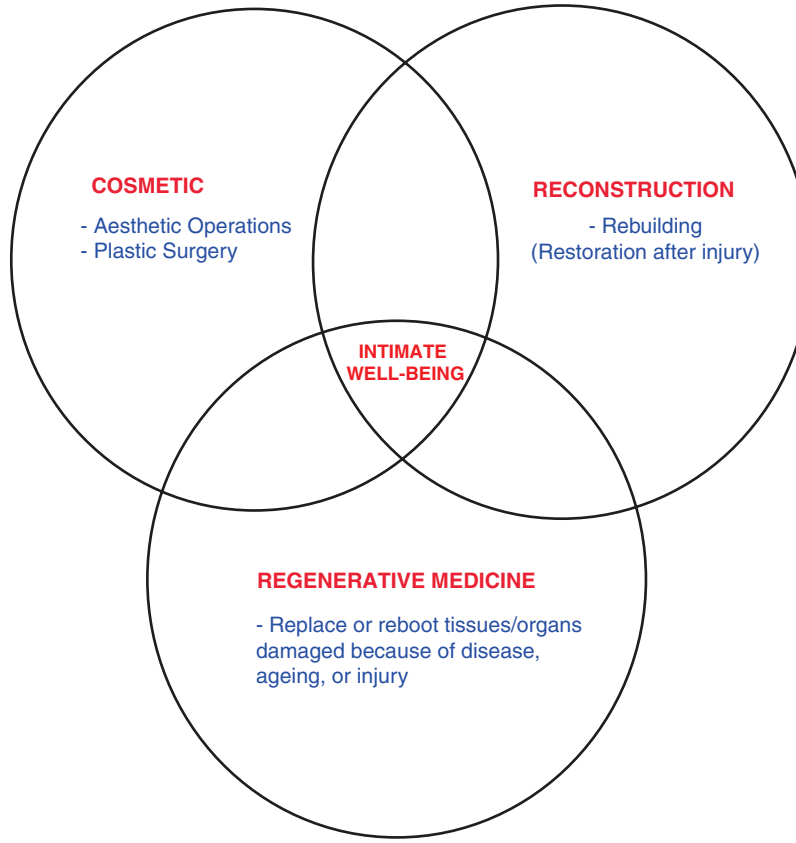

Fig. 1.1 Structures of aesthetic and functional medicine

tion, can potentially restore diseased and injured tissues and whole organs. The treatments with stem cells opened a new gate in cosmetic gynecology and operational practices involving the treatments of vagina atrophy, genitourinary syndrome of menopause, dyspareunia, lichen sclerosus, and lichen planus.

Aesthetic surgery covers the biggest part of plastic surgery. Plastic surgery also includes different subdivisions such as burn surgery, craniofacial surgery, microsurgery, hand surgery, and pediatric plastic surgery. Especially in recent years, the interest of plastic surgeons in genital aesthetic operations has increased. It is important for plastic surgeons interested in this field to be educated about female genital anatomy and physiology.

Genital aesthetic procedures are also known as "cosmetic gynecological operations." Experience in surgeries such as Bartholin's cyst removal, episiotomy repair, colporrhaphy, perineoplasty, and pelvic organ prolapse (POP) surgeries provides advantages to gynecologists regarding genital aesthetic procedures. However, it is important for gynecologists who intend to work in this field to have knowledge about basic aesthetic surgery principles and dermatological diseases.

1.2 Why Do Women Consult a Doctor?

The most common reason patients consult a doctor is aesthetic concerns. This is followed by functional and sexual reasons. Sometimes, hygienic, cultural, and medical indications may be found. These indications can be abbreviated as *5**R*** in English: "**R**eclaim–**R**estore–**R**evive–**R**econstruct–**R**epair."

The biggest aim of patients who apply to aesthetic clinics is to have a better appearance and to feel more comfortable in terms of psychosocial aspects. In a study, it was observed that women with low body mass index and who were attractive, self-confident, not shy toward the

opposite sex, tend to improve their sexual life, and who can easily find jobs and partners are more prone to cosmetic surgery [2].

1.3 Body Perception

Body perception is one of the most important motivational factors that arouse desire for cosmetic surgery. Body perception includes observations, feelings, and thoughts about one's own body. Women with positive body perception are at peace with their own bodies. Physical and psychological factors affect body perception. In one study, women who were looking for cosmetic surgery were quite dissatisfied with their appearance in the preoperative period, while it was observed that their body perception developed positively after the surgery [3].

1.4 Self-Esteem

Self-esteem and body perception are interrelated and are affected by each other in a cause–effect relationship. In a study, it was determined that self-esteem increased after cosmetic surgical procedures. In addition, it was stated that the perspective of the society, self-esteem, and body perception is important in a person's decision to choose cosmetic surgery [4].

The first article on cosmetic gynecological surgeries is a case report published in North America in 1978 [5]. This was followed by the studies conducted by Hodgekinson and Halt in 1984 and Chavis, LaFeria, and Niccolini in 1989 regarding the operation performed for aesthetic and sexual indications [6].

1.5 Genital Area is the Mirror of the Patient

An experienced physician, who carefully evaluates the genital area, has many preliminary thoughts about the patient. A woman with hyperpigmented vulvar skin and a larger-than-normal clitoris is characterized by androgen excess (such as polycystic ovary syndrome and adrenal hyperplasia), a woman whose vulva is larger than normal and whose skin is irritated may have an obsessive compulsive nature due to her habits such as excessive washing of her genital area with soap, a woman with very long genital hair and unhygienic may be depressed, have psychiatric problems, or have a distorted body image as in vaginismus, those who prefer different epilation methods suitable for Brazilian/Hollywood genital waxing fashion or those who have piercings/tattoos in genital area epilation may be fond of aesthetics or sexuality in this area, and those with a larger than normal clitoris and drooping lips (except for structural factors) may have frequent masturbation habits.

Conversely, it should be noted by the physician that there may be problems related to nutritional habits or immune system in those who have frequent vaginal yeast infections and that the partner factors of those who have recurrent purulent discharges despite frequent treatment should also be questioned, and that those with extremely clean vaginas may have frequent vaginal douching habits due to their obsessions. Of course, all these prejudices should always be considered, examining the patients' lifestyle, sociocultural, religious, and economic levels.

Conversely, lesions in the vagina (such as lichen planus and Behçet's) can also manifest in the oral mucosa. Skin problems in the vulva (such as lichen sclerosus, hidradenitis, Fox-Fordyce disease, and psoriasis) may also reflect skin pathologies in different body areas or autoimmune diseases or occur alone. For this reason, an experienced gynecologist or dermatologist should evaluate the patient as a whole and seek a remedy by going down to the root causes rather than treating the tip of the iceberg.

1.6 Aesthetic and Functional Genital Procedures Umbrella

The procedures related to the aesthetic and functional genital area in women include a series of surgical (Table 1.1) and non-surgical (Table 1.2) procedures.

Table 1.1 Surgical procedures

- **Labiaplasty**

Labiaplasty is the reduction and aesthetically correction of the labia minora or labia majora. If specified, labia minoraplasty is aesthetic—plastic operation of labia minora, also known as "*Nymphoplastie,"* especially in French-speaking countries, and labia majoraplasty is attributed to external genital labia

- **Clitoral hoodoplasty**

This is the removal of excess skin tissue on the clitoral hood area, which is also known as "preputium." It is usually performed simultaneously with labiaplasty. Synonymous terms such as clitoral hood reduction, "clitorohoodoplasty", or "clitoral hoodectomy" can be used.

- **Vaginoplasty**

This is a reconstructive surgery to narrow and tighten the vaginal canal surgically. It is also known as "colporrhaphy" or "surgical vaginal rejuvenation". The vaginal mucosa is excised and mostly fascia and muscle repair is performed. Several types can be performed:

  – Posterior colporrhaphy (+/− Levator's plication)
  – Anterior colporrhaphy
  – Lateral colporrhaphy

- **Perineoplasty**

This is also known as perineorrhaphy or perineal aesthetics. In the operation, the introitus and perineal tissue are repaired. In the meantime, episiotomy scars and skin tags in the area are also excised. As a result of perineoplasty, the perineum is slightly raised, while the perineal length is also increased

- **Colpoperineoplasty**

Performing posterior vaginal reconstruction and perineoplasty operations together

- **Hymen procedures**

Hymenoplasty is an aesthetic operation where repair and reconstruction of the hymen are performed. The aim is to restore virginity. It is also called hymenorrhaphy, revirgination, or hymen repair. Conversely, the "hymen protrusion" that manifests itself from the outside can be aesthetically disturbing. In addition, in cases such as vestibulitis and "painful hymen," hymen tissue may be the cause of superficial dyspareunia. In all these cases, hymenectomy operation can also be performed

- **Labia majora reduction (labia majoraplasty)**

The big ("major") genital lip is known as "labium majus." Its Latin plural form is referred to as "labia majora" or "labia majora pudenda." Majoraplasty operations are surgical stretching and reduction of sagging, loosened labia majora. Sometimes fat pad debulking can also be performed

- **Labia majora augmentation**

This is the resurfacing of collapsed labia majora, usually by injection of autologous fat graft. The augmentation process can also be done with HA (hyaluronic acid) injections

Table 1.2 Non-surgical procedures

- **Genital laser treatments**

These are energy-based, non-surgical methods applied to the vulva and vagina. Most common application purposes include:

  – Vaginal rejuvenation, tightening
  – Stress urinary incontinence (SUI) treatments
  – Vulvar and perianal bleaching
  – Vulvar tightening treatments

- **Genital radiofrequency (RF) treatments**

The indication fields are very close to laser treatments. Most common uses are:

  – Vaginal rejuvenation, tightening
  – Stress urinary incontinence (SUI) treatments
  – Vulvar tightening and resurfacing
  – Sexual enhancement treatments

- **G-spot applications**

This is the procedure of HA injection applied to the anterior vagina to increase sexual pleasure. Also known as G-spotplasty or G-shot © operations.

- **O-spot applications**

This is the procedure of platelet-rich plasma (PRP) injection applied to the anterior vaginal wall, vestibulum, and clitoral areas to increase sexual sensitivity. Also known as O-spotplasty or O-shot © operations

- **Genital filler injections**

This is the procedure of applying HA (hyaluronic acid) fillers to the labia majora, perineum, vulvar vestibulum, and vaginal mucosa. It is performed for different cosmetic and functional purposes

- **Regenerative applications**

Regenerative procedures include injections of autologous fat, stem cells, SVF (stromal vascular fraction), exosomes, autologous cytokine rich serum (ACRS), and platelet-rich plasma (PRP) that rejuvenate and regenerate the genital area. They can be applied to all internal and external genital areas. They can be preferred for functional, cosmetic, and antiaging purposes

- **Other non-invasive genital aesthetic procedures**

These include applications such as carboxytherapy, vaginal HIFU (high intensity focused ultrasound), mesotherapy, thread applications to the vagina and vulva, and magnetic chair. The field of genital aesthetic applications is expanding rapidly with new technologies every day

Additionally, AGS functional applications include treatments for diseases such as menopausal genitourinary syndrome, vulvar varicose veins, condyloma, benign tumors, dyspareunia, vulvar vestibulitis, vaginal dryness, sexual desire problems, and lichen sclerosus etc.

1.7 Statistics

According to American Association of Plastic Surgeons (AAPS) statistics, the amount spent annually on all cosmetic procedures in the USA in 2018 is around USD 16.5 billion. In total, 17.7 million cosmetic and 5.8 million reconstructive procedures were applied [7].

The most common cosmetic surgical procedures in the USA in 2018:

1. Breast augmentation (313,000)
2. Liposuction (258,000)
3. Rhinoplasty (213,000)
4. Eyelid surgery (206,000)
5. Tummy tuck (130,000)

The most common non-surgical cosmetic procedures in 2018:

1. Botulinum toxin (7.4 million)
2. Hyaluronic acid (2.6 million)
3. Chemical peels (1.38 million)
4. Hair removal (one million)
5. Microdermabrasion (709,000)

Non-surgical procedures are increasing faster compared to surgical procedures according to the American Society for Aesthetic Plastic Surgery (ASAPS) (Fig. 1.2).

Labiaplasty is the most common genital aesthetic operation in AGS (Table 1.3).

According to the data from American Society for Aesthetic Plastic Surgery (ASAPS), 26.3% of plastic surgeons perform surgical and non-surgical vaginal applications. Between 2012 and 2017, labiaplasty operations (within 5 years) increased by 217.3%. Again, in 2017, a total of 10,787 labiaplasty operations were performed in

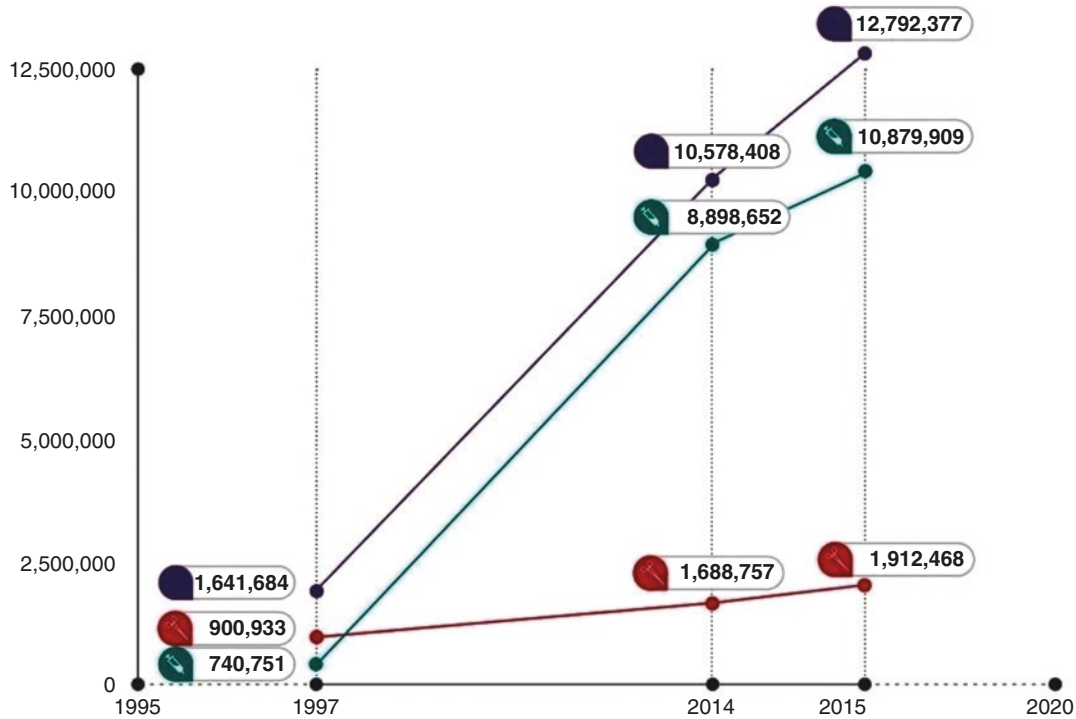

Fig. 1.2 Increase in cosmetic procedures in the USA since 1995. The lower red line shows the number of surgical procedures performed, the green line in the middle shows the number of non-surgical procedures, and the purple line at the top shows the total number of surgical and non-surgical procedures [7]

Table 1.3 Number of labiaplasty and pelvic floor reconstruction operations in the USA in 2017 and 2018 [7]

Year	Labiaplasty	Pelvic floor reconstructions
2017	10,253	1592
2018	10,246	1719

the USA, and labiaplasty ranked 17th among all surgical cosmetic procedures. When we look at the age distribution of patients undergoing labiaplasty, 469 patients (4.3%) were aged 18 and under, 5963 patients (55.3%) between 19 and 34 years, 3685 patients (34.2%) between 35 and 50 years, 603 patients (5.6%) between 51 and 64 years, and 67 patients (0.6%) were over 65 years of age [8].

1.8 AGS Contraindications

AGS is not recommended in the following situations:

- **Pregnancy**
  All elective aesthetic and reconstructive procedures should be avoided during pregnancy.
- **Puerperium period**
  It is recommended to wait at least three months for vaginal tightening and labiaplasty procedures.
- **Active HPV or HSV presence**
  In order to prevent the spread of the infection, it is recommended to first treat the infection and then to perform the operation after recovery.
- **Uncontrolled diabetes mellitus (DM)**
  The operation is not recommended without blood sugar regulation as it will adversely affect wound healing. The situation is the same for patients with impaired glucose tolerance.
- **Morbid obesity (body mass index > 40)**
  Although morbid obesity does not constitute an absolute contraindication, wound healing may be adversely affected. In addition, the risk of developing infection increases slightly due to hygienic reasons.
- **Presence of abnormal scar tissue and keloids**
  This does not constitute an absolute contraindication. Many patients with severe hypertrophic cesarean scars may not develop scars after labiaplasty. High vascularization and lymphatic drainage of the tissue may be a factor in this.
- **Body Dysmorphic Disorder (BDD)**
  This is definitely a situation that should be well evaluated. As stated in the ACOG bulletin in 2020, this group of patients may have dissatisfaction and different emotional changes after surgery. In case of doubt, a psychiatric consultation should be sought before surgery.
- **Psychiatric or serious psychological disturbances**
  Conditions such as depression, anxiety, and obsessive-compulsive disorder (OCD) are important in patient selection. Associating psychological problems with the genital area entirely may lead to an increase in postoperative emotional problems. In addition, cosmetic surgery should not be performed on patients diagnosed with psychosis, bipolar disorder, severe depressive disorder, and eating disorders. Although not every patient who will undergo aesthetic genital surgery requires psychiatric consultation, it is appropriate to request a psychiatric consultation in suspicious cases.

  Some vaginismus patients may also request aesthetic genital operations unnecessarily due to their distorted body image and loss of self-confidence.
- **Mentally disabled**
  All operations for aesthetic purposes are contraindicated in people with mental disabilities.
- **Cancer or suspected cancer**
  Vaginal laser applications should be avoided, especially in those with abnormal cellular cervical and/or vaginal pathology due to effects of HPV. Also, surgical and non-surgical applications are contraindicated in cases of undiagnosed genital cancer or pre-cancer.
- **Over-expecting patients**
  As the patient has the freedom to choose the physician, it is also important that the physician who will perform aesthetic surgery

choose the patient. It is not beneficial for patients with overexpectations as well as those who are overly detailed, indecisive, mentally contradictory, or insecure to undergo plastic surgery. The satisfaction level of such patients after surgery is extremely low. Conversely, many patients do not know exactly what they are looking for, although they consult a physician. Problems with the spouse, cheating, depression, generalized anxiety disorder, or different psychological disorders may underlie this search.

1.9 Patient Selection and Surgery Planning

Patient selection is extremely important in cosmetic genital surgery. At the patient's first visit, the surgeon should ask:

- What kind of complaints she is coming in for,
- What is the primary complaint,
- When did the complaints start,
- Aesthetic and functional expectations regarding the operation,
- Whether she has problems with her marriage or partner relationship,
- Whether the operation is primarily desired by her spouse or herself,
- Whether there are arousal, desire, orgasm, lubrication, and/or pain problems related to sexual life,
- Obstetric and gynecological history,
- Last menstrual period,
- Menstrual cycles,
- Whether there is an incontinence problem,
- Systemic diseases,
- The drugs she uses,
- Drug allergies,
- Whether she has had anesthesia before, and
- Past operations and cosmetic procedures.

While taking anamnesis, the patient's attitudes, general psychology, and symptoms of body dysmorphic disorder should be evaluated.

After the anamnesis, a simple gynecological evaluation should be made for a few minutes in the lithotomy position, accompanied by a female assistant. At the gynecological table, all requests of the patient are listened to and brief information is given about the procedures that can be done on the genital area. It will be easier to demonstrate this information using a mirror given to the patient to hold.

Detailed information about the surgery planned to be performed after the pelvic examination is passed includes:

- Which surgical technique will be applied,
- How long it will take,
- After the explanation, whether it is necessary to stay in the hospital or not, the patient and the physician decide together. In order to facilitate understanding, it would be appropriate to explain what will be done using simple drawings and to show examples from previous surgeries.

After the decision to operate is made, the following should be discussed:

- When and where the surgery will be performed (office/hospital condition),
- What the anesthesia method will be (local/sedation/epidural/pudendal/general),
- What the patient will encounter in the postoperative period,
- What kind of drugs she will need to use,
- How to change medical dressings on her own,
- Detailed explanations are given about toilet, bathroom needs, sports activities, sexual life, and time to return to work or school during the postoperative period.

All physicians working in cosmetic gynecology should be able to analyze the patient's psychology well, have sufficient knowledge in terms of sexual dysfunctions, and should always adopt the principle of *"first, do no harm"* as a principle. The physician must have been trained in genital aesthetic operations and, if he/she will use them, energy-based treatments. In addition, there will be a need for a nurse who is well equipped and trained to assist in plastic/reconstructive surgery.

The physician should not make overly exaggerated discourses, should know his/her own limits, behave honestly with the patient, and never compromise ethical principles.

1.10 Female Circumcision

Female circumcision is a traditional rather than a religious aspect that dates back to the Pharaoh's era, especially in West African countries such as Sudan, Ethiopia, Egypt, and Somalia. Female circumcisions are more often referred to as "Female Genital Mutilation (FGM)" in the literature. Traditionally, it is done by cutting the outer genitalia of young girls between the ages of 6 and 10 years. Girls who are not circumcised in these countries face the risk of social exclusion and labeling. In general, the aim is to protect the chastity of the woman by reducing her sexual desire and the pleasure she will receive during sexual intercourse.

FGM, which is considered a violation of women's human rights, can lead to serious complications such as tetanus, excessive pain, edema, infection, fever, excessive bleeding, shock, chronic pain, organ damage, urinary incontinence, infertility, vaginal delivery difficulties, and obstetric fistula formation if the woman conceives. FGM is usually carried out during childhood, mostly by neighborhood midwives who are not health care professionals, and without any consent.

Its severity (amount of tissue damaged) and health risks are related to the type of mutilation and the amount of tissue cut. According to WHO statements, more than 200 million girls have been circumcised in 30 different countries, led by Sudan, and three million girls are at risk of being circumcised every year [9].

1.11 Types of Genital Mutilation in Women

The WHO defines the practice as "all procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons." There are four different types of genital mutilation and subtypes defined by the World Health Organization (WHO) in 1997 [10]:

Type I: Partial or total removal of the clitoral glans and/or the prepuce/clitoral hood. When it is important to distinguish between the major variations of Type I FGM, the following subdivisions are used:

- Type Ia. Removal of the prepuce/clitoral hood only.
- Type Ib. Removal of the clitoral glans with the prepuce/clitoral hood.

Type II: Partial or total removal of the clitoral glans and the labia minora with or without removal of the labia majora. When it is important to distinguish between the major variations of Type II FGM, the following subdivisions are used:

- Type IIa: Removal of the labia minora only.
- Type IIb: Partial or total removal of the clitoral glans and the labia minora (prepuce may be affected).
- Type IIc: Partial or total removal of the clitoral glans, the labia minora, and the labia majora (prepuce/clitoral hood may be affected).

Type III: This type is often referred to as "infibulation" and involves narrowing of the vaginal opening with the creation of a covering seal. The seal is formed by cutting and repositioning the labia minora or labia majora. The covering of the vaginal opening is done with or without removal of the prepuce and glans (Type I FGM). When it is important to distinguish between variations of Type III FGM, the following subdivisions are used:

- Type IIIa: Removal and repositioning of the labia minora.
- Type IIIb: Removal and repositioning of the labia majora.

Type IV: All other harmful procedures to the female genitalia for non-medical purposes, for

example, pricking, piercing, incising, scraping, and cauterization.

"*Deinfibulation*" refers to the practice of cutting open the sealed vaginal opening of a woman who has been infibulated (Type III). This is often done to allow sexual intercourse or to facilitate childbirth and is often necessary for improving the woman's health and well-being.

Reconstructive surgery of Type III genital mutilation (34 yrs) is shown in Fig. 1.3.

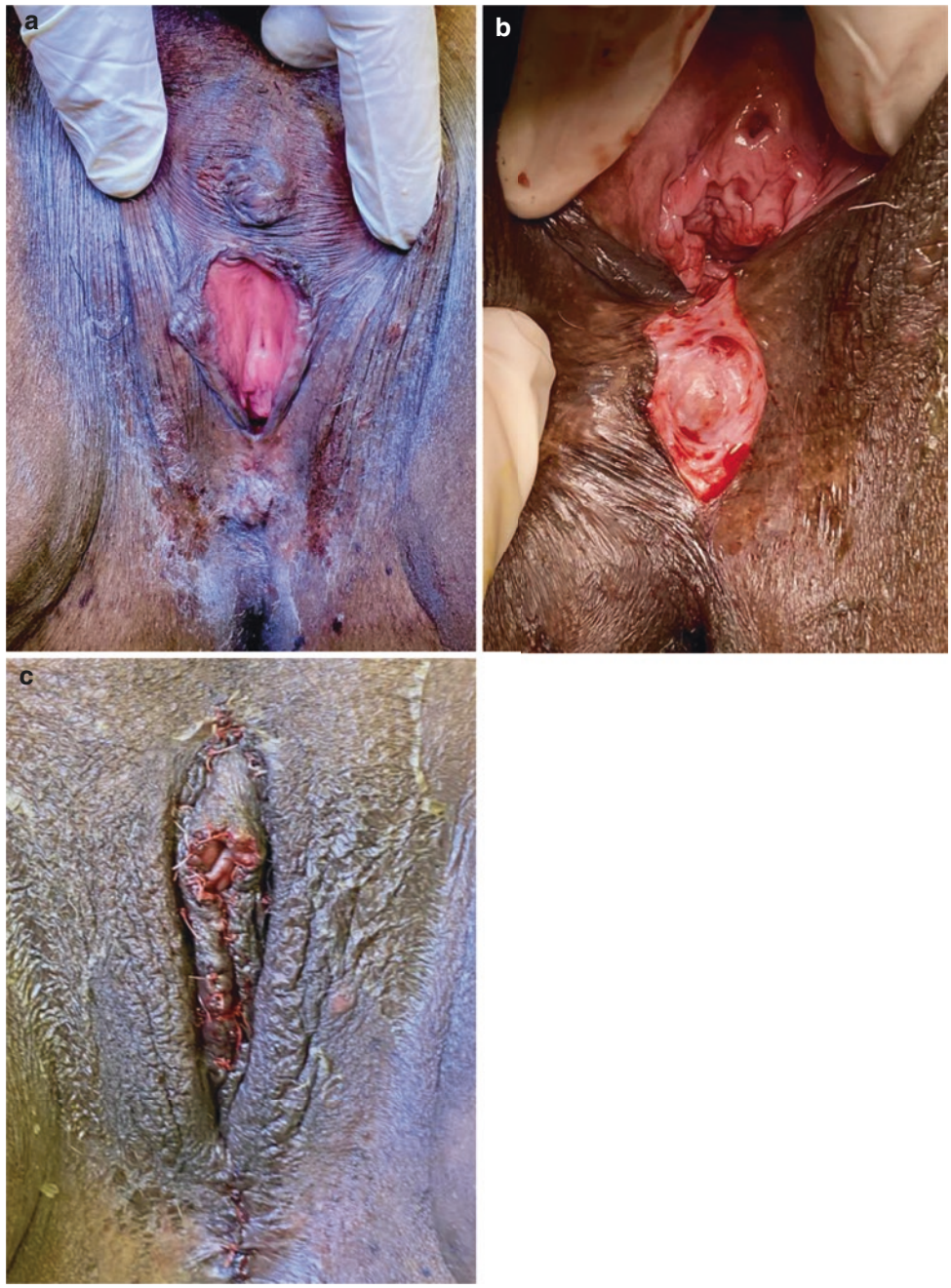

Fig. 1.3 Reconstruction of Type III genital mutilation (**a**). Separation of merged sides of both labia minora and majora, extirpation of the perineal inclusion cyst, perineal repair, revision of the labia minora and preputium, and liberation of the glans clitoridis (**b**). After the procedure (**c**)

In this context, female circumcision is quite different from genital aesthetic operations because:

- It is not recommended to perform genital aesthetic operations for aesthetic purposes under 18 years of age. Mutilations are usually performed in childhood, such as between the ages of 6 and 10 years.
- The purpose of genital aesthetic operations is aesthetic and functional correction. However, genital mutilation procedures are performed with the idea of preventing sexual pleasure.
- Genital aesthetic operations are performed in office or hospital conditions under aseptic conditions. Female circumcisions are usually performed at home, in the presence of neighborhood midwives, and without sterile conditions.
- Written and verbal consent is taken from patients before genital aesthetic operations. There is no consent requirement for mutilation.

1.12 History of Female Circumcision

It is accepted that the Prophet Abraham was circumcised at the age of eighty, that his children were also circumcised, and that the circumcision of men and women began at that time.

> *Prophet Abraham, who lives in Palestine and is married to Sarah (Sara in Arabic), has no children. Sarah offers her black slave Hajar to her husband Abraham and asks her to have a child. However, when Hajar becomes pregnant, Sarah becomes jealous of her and demands that her three limbs be amputated. Being worried about this situation, Abraham orders Hajar to pierce her ears and be circumcised. However, Sarah's anger does not end afterwards. For this reason, Abraham takes Hajar, takes the newborn child Ishmael (Isma'il) to Mecca and leaves them there. Mecca, which was a town that nobody visited at that time, quickly gained popularity with the rebuilding of the Kaaba by Hajar and Abraham who later came to her aid* [11].

The pictures on some papyri and the circumcision scenes on the wall of Karnak Shrine in Luxor are evidence of the prevalence of circumcision in ancient Egypt. Today, approximately 200 million women are circumcised in approximately 30 countries in western, eastern, and north-eastern Africa, in parts of the Middle East and Asia, and within some immigrant communities in Europe, North America, and Australia. In Sudan and Somalia, which are the leading countries for FGM, around 97% of girls are circumcised. Apart from Africa, girls are also circumcised in some parts of Yemen, Northern Iraq, Arabia, India, Pakistan, Malaysia, and in some countries in Asia and Latin America. FGM continues to persist among immigrant populations living in Western Europe, North America, Australia, and New Zealand. The citizens of these countries try to continue their customs in the countries they emigrate to. According to the information I received from my Indonesian colleagues, the ritual is performed by gently scratching the clitoris of girls born in that country with a small syringe needle.

In 2020, the COVID-19 pandemic has negatively and disproportionately affected girls and women, resulting in a shadow pandemic disrupting SDG target 5.3 on the elimination of all harmful practices including FGM. UNFPA estimates an additional two million girls are projected to be at risk of undergoing female genital mutilation by 2030.

Female circumcision is a practice that comes from tradition and is later associated with religion. It is not mentioned in the holy book Qur'an and there is no strong evidence that the Prophet said that girls are to be circumcised. According to the Hanafi sect, circumcision should only be applied to men [12].

Within the framework of "*International Day of Zero Tolerance for Female Genital Mutilation, 6 February"* announced by the United Nations, a wide-ranging global program against female genital mutilation was carried out in 17 African countries by UNICEF and UNFPA. In this context, many advertisements, booklets, and research reports were published against female genital mutilation. Thanks to all these studies, great success has been achieved and female genital mutilation has been prohibited in 24 of 30 countries.

Appendix

With the purchase of this book, you can use our "SN Flashcards" app to access questions free of charge in order to test your learning and check your understanding of the contents of the book.

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Should Aesthetic Genital Operations Be Done?

2

Before practicing surgery one should gain knowledge of anatomy and the function of organs so that he will understand their shape, connections and borders. He should become thoroughly familiar with nerves, muscles, bones, arteries and veins. If one does not comprehend the anatomy and physiology one can commit a mistake which will result in the death of the patient.

(Al-Zahrawi, the greatest surgeon of middle ages, "father of modern surgery")

In this section, the opinions on genital aesthetic operations of some important obstetrics and gynecology associations, especially the American College of Obstetricians and Gynecologists (ACOG), the American Food and Drug Administration (FDA) warning, the World Health Organization (WHO) definition of health, Patient Rights, Patient Perspective, and Legal Aspects are discussed.

2.1 ACOG Declarations

For the first time in 2007, ACOG made a statement about genital aesthetic operations and declared some warnings (Nr 378). Despite the genital aesthetic operation techniques and developing new technologies, the same declaration was reaffirmed exactly 10 years later, in 2017.

According to the ACOG declaration in the bulletin Nr 378, "It is misleading to give patients the impression that vaginal rejuvenation, G-spot amplification, hymenoplasty, designer vaginoplasty or similar operations are *accepted and routine* procedures. These patients who are disturbed by their genital appearance or sexual problems may be further traumatized by unproven surgical procedures" [1].

In addition, the physician is obliged to discuss the following issues with his/her patient:

- Reason for requesting cosmetic gynecological surgery.
- Whether there are any physical signs or symptoms that warrant surgical intervention.
- Female genital organs may have various appearances.
- There is insufficient data on the efficacy and safety of gynecological cosmetic operations.
- Possible complications such as infection, change of sensation, dyspareunia, adhesions, and scarring in gynecological cosmetic operations.

Despite all these warnings, ACOG did not completely close the door to AGS operations completely and allowed operations with certain indications. Among the medical indications approved by ACOG, deinfibulation (female circumcision correction) and labiaplasty operations are included due to labial hypertrophy and asym-

S. Eserdağ, *Aesthetic and Functional Female Genital Surgery*,
https://doi.org/10.1007/978-3-031-16019-6_2

metry. Although labiaplasty can be performed for both the inner and outer labia, this is not clearly stated in this ACOG declaration. Conversely, according to ACOG's declaration Nr 378, sexual dysfunctions cannot be corrected by aesthetic operations, and sexual function can worsen with cosmetic gynecological operations that have not been proven effective. Behind ACOG's cautious approach to aesthetic genital operations is the scarcity of evidence-based scientific data in this field. Additionally, the fact that this bulletin, published by ACOG, was written by academicians who are not in the ACOG association and who do not have practice in cosmetic gynecology has been another criticism.

ACOG published a new bulletin on elective female genital cosmetic surgery in January 2020. This bulletin numbered 795 replaced the declaration numbered 378 published in 2007. In this declaration, it is stated that sexual dysfunctions can be improved by genital surgeries, but for this, it is important that the physician is educated about sexual dysfunctions and psychiatric disorders [2].

According to ACOG's declaration in 2020 (Nr 795):

- Female genital cosmetic procedures include procedures such as labiaplasty, clitoral hood reduction, hymenoplasty, labia majora augmentation, vaginoplasty, and G-spot amplification.
- Patients should be made aware that surgery or procedures to alter sexual appearance or function (excluding procedures performed for clinical indications, such as clinically diagnosed female sexual dysfunction, pain with intercourse, interference in athletic activities, previous obstetric or straddle injury, reversing female genital cutting, vaginal prolapse, incontinence, or gender affirmation surgery) are not medically indicated, pose substantial risk, and their safety and effectiveness have not been established.
- Women should be informed about the lack of high-quality data that support the effectiveness of genital cosmetic surgical procedures and counseled about their potential complications, including pain, bleeding, infection, scarring, adhesions, altered sensation, dyspareunia, and need for reoperation.
- Obstetrician–gynecologists should have sufficient training to recognize women with sexual function disorders as well as those with depression, anxiety, and other psychiatric conditions. Individuals should be assessed, if indicated, for body dysmorphic disorder. In women who have suspected psychological concerns, a referral for evaluation should occur before considering surgery.
- In responding to a patient's concern about the appearance of her external genitalia, the obstetrician–gynecologist can reassure her that the size, shape, and color of the external genitalia vary considerably from woman to woman. These variations are further modified by pubertal maturity, aging, anatomic changes resulting from childbirth, and atrophic changes associated with menopause or hypoestrogenism, or both.
- As for all procedures, obstetrician–gynecologists who perform genital cosmetic surgical procedures should inform prospective patients about their experience and surgical outcomes.
- Advertisements in any media must be accurate and not misleading or deceptive. Rebranding existing surgical procedures (many of which are similar to, if not the same as, the traditional anterior and posterior colporrhaphy) and marketing them as new cosmetic vaginal procedures is misleading.
- Obstetrician–gynecologists who perform cosmetic procedures should be adequately trained, experienced, and clinically competent to perform the procedure. Extensive familiarity with appearance and function, as well as the ability to manage complications, is expected from obstetrician–gynecologists who perform these procedures.

Similarly, The Society of Obstetricians and Gynaecologists of Canada (SOGC) advises that physicians who will perform cosmetic procedures related to the vagina and vulva should be trained in gynecological and/or plastic surgery in terms of cosmetic surgery of the external genital system.

2.2 FDA Warning

On July 30, 2018, the FDA warned some laser and radiofrequency companies manufacturing energy-based technology (EBT), health care providers, and the patients who use it. They also provided additional information in November of the same year [3].

Here is the declaration:

We are aware that certain device manufacturers may be marketing their energy-based medical device for vaginal "rejuvenation" and/or cosmetic vaginal procedures. The safety and effectiveness of energy-based medical devices to perform these procedures has not been established.

Vaginal "rejuvenation" is an ill-defined term; however, it is sometimes used to describe nonsurgical procedures intended to treat vaginal symptoms and/or conditions including, but not limited to:

- Vaginal laxity,
- Vaginal atrophy, dryness, or itching,
- Pain during sexual intercourse,
- Pain during urination,
- Decreased sexual sensation.

To date, we have not cleared or approved for marketing any energy-based devices to treat these symptoms or conditions, or any symptoms related to menopause, urinary incontinence, or sexual function. The treatment of these symptoms or conditions by applying energy-based therapies to the vagina may lead to serious adverse events, including vaginal burns, scarring, pain during sexual intercourse, and recurring/chronic pain.

Healthcare providers should discuss the benefits and risks of all available treatment options for vaginal symptoms with their patients. If any patients experience adverse effects from procedures that involved the use of energy-based devices to perform vaginal "rejuvenation," cosmetic procedures, or treat genitourinary symptoms of menopause, sexual dysfunction, or urinary incontinence, it should be reported.

Behind all these warnings from the FDA and ACOG, despite the rapidly developing technologies and the number of surgeries, there are still insufficient scientific evidence-based data. Conversely, the fact that many pioneering physicians in this field act in partnership with technology-producing companies or have direct commercial partnerships with these companies is also a source of trust.

2.3 FDA Warning and a Review on Laser and Other Energy-Based Technologies

(This article is an excerpt from an article I shared on my social media)

On July 30, 2018, the FDA (US Food and Drug Administration) issued a warning about laser and energy technology devices. Our colleagues expressed their concerns in some physician groups on this issue. I would like to share my thoughts on the subject with you.

First of all, laser and RF devices are technologies that have been used in cosmetic dermatology for years. These devices have been transferred to the treatment of the genital area since the early 2000s. Laser is used in cosmetic dermatology in many areas such as acne, wart, and flesh mole treatment and facial rejuvenation. RF has a place especially in facial and décolleté rejuvenation, regional obesity, and many physical therapy applications. We, gynecologists, met with the production of the vaginal probes of these devices with a delay (about 10 years ago). In fact, medical laser and RF technologies are extremely old. They already have FDA approvals for genital wart treatment and hemostasis.

The laser is obtained with energy-concentrated light waves of the same wavelength without scattering. Lasers can be liquid, solid, or gaseous, depending on the medium used. For example,

CO_2 lasers work on the principle of transferring the intense energy light beam produced by gas (CO_2) medium to the tissue. Each laser has an affinity for a chromophore. CO_2 and erbium: YAG lasers have affinity for water molecule, and when they encounter water in the tissue, they generate heat with a thermal effect. Lasers targeting the melanin chromophore lighten color, and those that reach the oxyhemoglobin chromophore are effective in the treatment of varicose veins.

In radiofrequency, the mechanism is different. With a wavelength of a certain frequency (at the frequencies of radio-TV signal waves where the name comes from), the electric current meets the water in the tissue and generates heat. The effect is again thermal.

In laser and RF, the mechanism is actually similar*: "reversible injury."* As a result of these slight injuries, an inflammatory process begins in the tissue, many cytokines such as TGF-Beta come into play, fibroblasts migrate to the area for repair, and as a result, collagen and elastic connective tissue synthesis starts again.

The term "rejuvenation" mostly used in laser and RF means *"the restoration of a youthful appearance to something."* The same term is used for other parts of the body, such as facial, hand, neck rejuvenation, etc. The terms intravaginal laser tightening or laser narrowing are wrong. With the reversible injury we have provided, the repair process begins, which is different from tightening.

Tissue penetration in lasers is very low (energy accumulates in the lamina propria), and the temperature produced is high (60–65 °C). In radiofrequency, the penetration is higher (subcutaneous tissue), but the energy is lower (40–46 °C). Both procedures are performed while the patient is awake, and the areas other than the perineum and introitus (vaginal entrance) are quite pain free. Since the patient is awake, there is no risk of burning during the procedure. In fact, the temperature given by the thermosensor apparatus at the probe tip of the RF device is constantly controlled, preventing exceeding the limit. Some RF devices even stop directly when the tissue temperature reaches a point.

Competitions between laser and RF companies are great. In our clinics we use both laser and RF. That's why we can evaulate it objectively.

No major problems such as severe burns, scar tissue development, or fibrosis have been encountered in more than 7500 laser and radiofrequency applications performed in our clinic so far. Moreover, there are no major complications mentioned in the literature. It is an unclear on what basis the FDA refers to when talking about side effects related to devices. They are completely non-invasive procedures and have slight differences between the indications.

On the other hand, while laser is slightly ablative, RF has no ablative effect. For this reason, even sexual intercourse can be recommended immediately after RF operation. The duration of sexual abstinence for laser is seven days.

Laser and genital RF can be used in areas such as stress urinary incontinence, vaginal dryness, lichen sclerosus, and menopausal atrophy (thinning of the genital area skin), except for vaginal rejuvenation. They are also used for cosmetic purposes for majora rejuvenation. Laser can be used for anogenital bleaching and cutting in labiaplasty operations. With the increased fibroblastic activity, the vaginal tightening effect becomes noticeable by the patient who undergoes the procedure and by her partner after an average of three weeks.

On the other hand, the decisions made by the FDA should also be questioned. For example, the FDA-approved synthetic meshes in 2001 for vaginal mesh applications. In 2008, they highlighted the complications of mesh erosion, pain, and urinary complaints. They talked about the risks of dyspareunia. In 2016, they changed their mind on the 2001 decision and included meshes in the high-risk group and warned the manufacturers about this issue. On April 16, 2019, the FDA asked all manufacturers to stop their sales and distribution of mesh for cystocele (anterior wall prolapse). We will see what kind of declarations will come later.

Half of women aged 60 and older are incontinent. It is a big social problem. Up to the age of 80, 12% of women are operated on due to POP (pelvic organ prolapse).

We are faced with the fact that many defects and recurrence rates of surgical methods and surgical techniques are high. The risk of dyspareunia in midsling mesh operations is 16%, and permanent hip and groin pain in 12%. This is why constant modifications of the technique are being developed.

Non-invasive laser and RF treatments can be performed easily under office conditions in obese, diabetic, and incontinent cases with poor general health. Anesthesia is not applied, and the procedure takes about 20 minutes. It is indicated in cases of SUI without POP or mild POP. If we set out with the quote of Dr. Victor Gomel *"Surgery is the incompetence of medicine,"* can we save some of the incontinence patients from surgery with these simple applications? It is necessary to think about it very carefully.

Genital aesthetics and technology uses are generally performed in private centers. University and training hospitals act more slowly and conservatively in this regard, which is why there are not enough RCT (randomized controlled trial) data. Most of the studies done are case studies. Behind the decisions made by the FDA commission, there are facts such as the scarcity of evidence-based scientific data and the fact that most of the studies in this area were commissioned by companies in the style of white papers.

It would be a great injustice to close the doors to new technologies so early. Similar mistakes were made by the Women's Health Initiative (WHI) study. All postmenopausal treatments were terminated due to an incorrectly designed study and news in the press. I hope the same will not happen to genital laser, radiofrequency, and other genital technologies.

2.4 World Health Organization (WHO) Definition of "Health"

Health is not just *"not having any disease."* WHO defines health as a state of complete *physical, mental (emotional),* and *social* well-being and not merely the absence of disease or infirmity. According to the Encyclopedia Britannica, health is the extent of an individual's continuing physical, emotional, mental, and social ability to cope with his/her environment. As described in these definitions, the mental and social dimensions of health should also be taken into consideration as well as physical. Therefore, most of the aesthetic medical procedures, although not for therapeutic purposes, are the methods of realizing the right to health, which includes one of the basic human rights, the mental well-being of the person. In this context, most of the aesthetic and reconstructive operations for the genital area are performed *"to be healthy."* For example, in most labiaplasty operations, which are frequently requested by patients, in addition to aesthetic concerns, there are physical problems such as frequent vaginal infections, urine flowing in different directions in the toilet, and irritation due to friction while wearing jeans. The number of women who see themselves as socially flawed or even disabled, who cannot flirt with their boyfriends, cannot marry out of shame, and cannot concentrate on the relationship due to being ashamed of their bodies when they are with their partners during intercourse is quite high. Some patients also face emotional problems such as self-deficiency, inability to feel like a woman, and lack of self-esteem. Therefore, is it enough to focus solely on physical diseases of an anatomical region, when this region has such great effects on a person's social life and psychology? Similar situations apply to women who experience postpartum vaginal enlargement and age-related insensitivity.

2.5 Patient Rights

The first written declaration on patients' rights is the declaration accepted at the 34th Congress of the World Medical Association (VMA), which was held in Lisbon in 1981. According to this declaration, the patient has the right to choose freely and change his/her physician and hospital or health service institution, regardless of whether they are based in the private or public sector.

In the declaration of European Consultation on the Rights of Patients, held in Amsterdam on 28–30 March 1994 under the auspices of the WHO Regional Office for Europe (WHO/

EURO), patient rights are gathered under six main headings:

1. Human rights and values in health care
2. Information
3. Consent
4. Confidentiality and Privacy
5. Care and Treatment
6. Application

Considered from the patient's point of view, everyone has, of their own free will:

– The right to choose the health system.
– The right to choose the type of treatment and procedure.
– The right to choose or refuse procedures with informed consent [4].

2.6 Patient Perspective

From a patient perspective, how can we ignore the following facts below?

2.6.1 Self-Esteem Issues

Some women desire to change their physical appearance in order to feel better and increase their self-esteem. They may perceive the appearance of their external genitalia as an embarrassing defect or *"stigma."* In fact, the main reasons given for all aesthetic operations such as mammoplasty, rhinoplasty, abdominoplasty, and liposuction are almost similar: increased self-esteem, feeling better psychologically.

2.6.2 Being Ashamed, Avoiding Mutual Relations

Some women may experience emotional stress due to their anatomical features and appearance of their genital areas. Being ashamed or avoiding marriage or even dating relationships are common behaviors. I came across many examples on this subject:

A 24-year-old patient who came to my clinic for labial revision said she hated the tissues she thought of as excess in her genital area. Since she was unaware of plastic surgery in this area, she told me that, when she was 16, she cut her labia with a bread knife and rubbed olive oil and sat on it to stop the bleeding. Eight years later she applied to me for the revision of her irregular labia.

Another patient of mine who applied for a labiaplasty operation had a chromosome test after she was doing a research on the internet for her hypertrophic labial appearance, with the thought that she might be a "hermaphrodite male" and contacted me with her test result.

Another 42-year-old patient, who was very successful in her business life, started crying immediately after a mild sedation anesthesia and shared her true story with me. My patient emotionally stated that she had postponed this operation because she was afraid of this surgery, of which she had been thinking for years, but that she hated her own femininity because of the abnormality in her inner labia, that she could not get close to any man, that is why she was still virgin and even could not think of getting married. When she came for a follow-up two months after the operation, I encountered a completely different person whose self-esteem was enhanced incredibly.

2.6.3 Hygienic Problems

Some women may have hygienic problems due to the anatomical features of their external genitalia, and they have frequent genital infections as well as sweating of the genital area, bad odor, and frequent fungal infections. Smegma accumulation on the inner labia after sports is an especially important hygienic problem.

2.6.4 Protrusion while Wearing Trousers

Some women may experience social problems such as avoiding wearing tight tights, pants,

bikinis, etc. The inability to wear a bikini due to the external appearance of the external genitalia and avoiding social environments are common avoidance behaviors. Conversely, the labia majora's stance in trousers or tights split on both sides is the appearance known as "camel toe." Some women especially desire this look, while others are quite dissatisfied and embarrassed with it. Today, different silicone pads that are attached to underwear that either look like camel toe or oppositely hide camel toe have been produced.

Many congenital and acquired pathologies can cause aesthetic and functional problems in women as shown in Figs. 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12 and 2.13.

2.6.5 Anatomical Defects and Dermatologic Pathologies

Congenital or acquired anatomical defects and skin pathologies bring along many functional problems and aesthetic concerns.

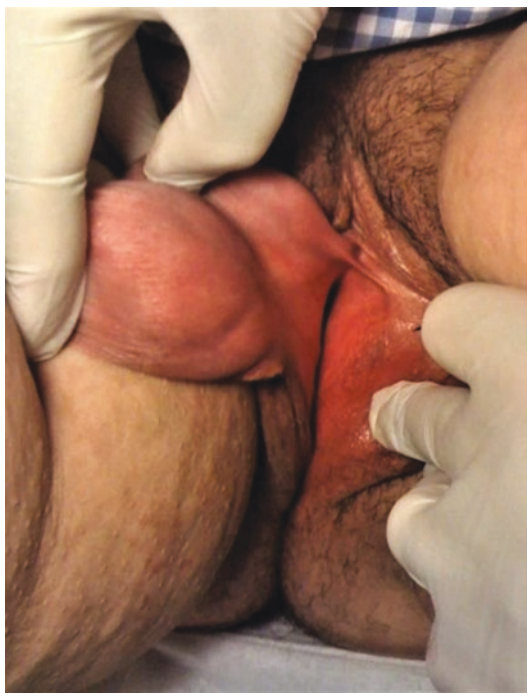

Fig. 2.1 Right labial cyst (18 years old)

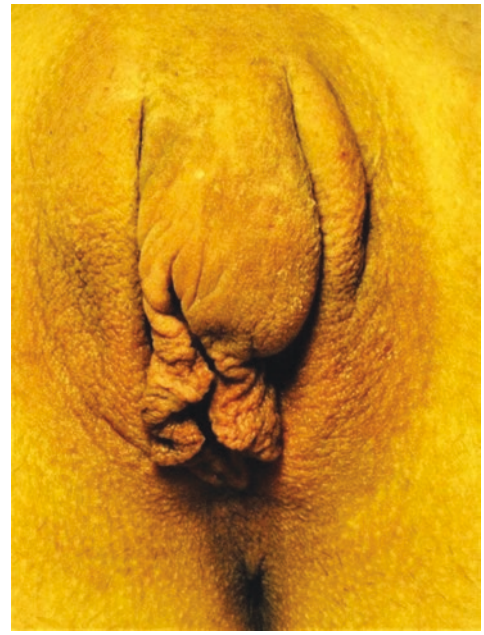

Fig. 2.2 Clitoral hood tumor (19 years old)

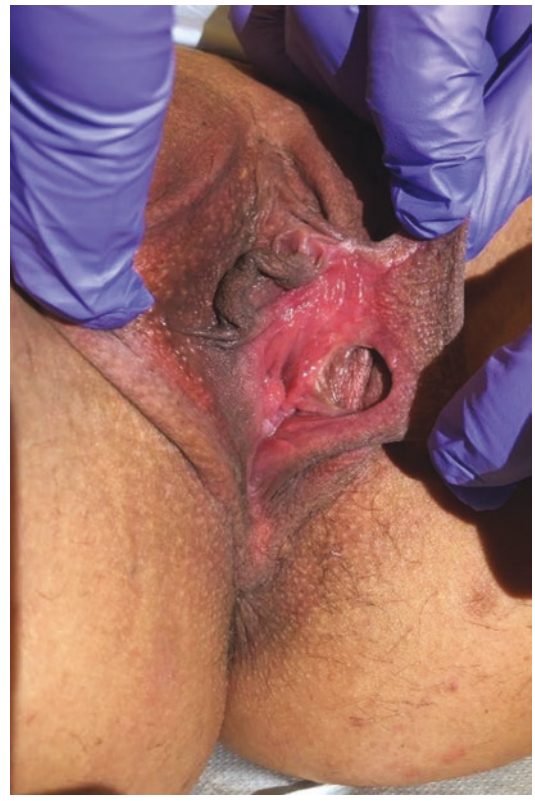

Fig. 2.3 Labial perforation because of silver nitrate placed due to Bartholin's cyst

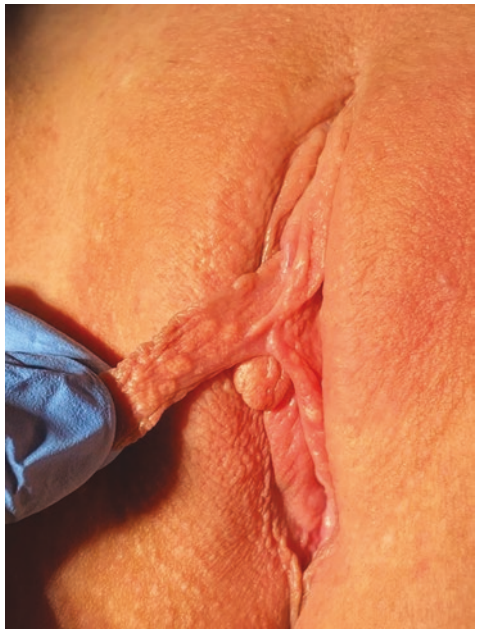

Fig. 2.4 Separation of the left labium due to falling off a bicycle

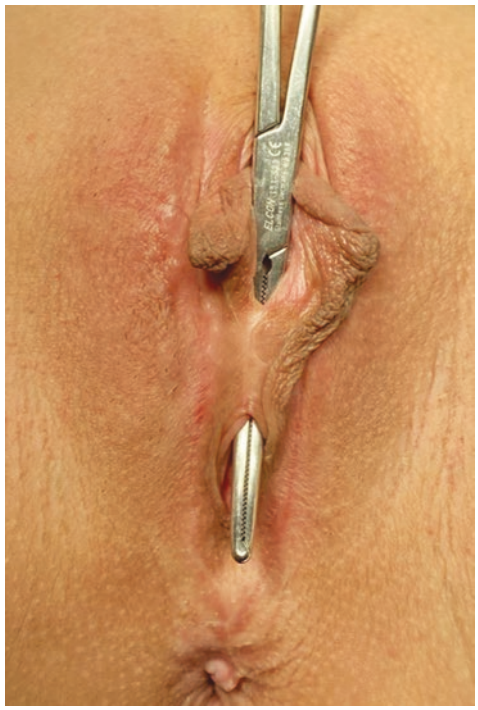

Fig. 2.5 Labial fusion. This patient (39 years) who had vaginismus treatments unnecessarily by many different centers, and applied to our clinic due to inability of sexual penetration. In her anamnesis, she describes a vulvar infection during childhood

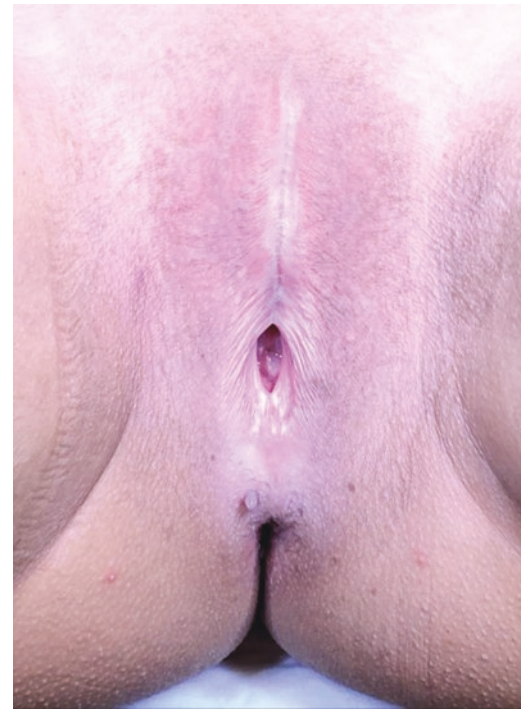

Fig. 2.6 Severe labial fusion caused by lichen sclerosus disease in a patient (26 years). Genital adhesions can obliterate the vaginal entrance and cause permanent deformations. In these cases, surgery is inevitable

2.6.6 Vulvar Irritation

Some women may experience difficulties due to irritation and strain while wearing tight pants, riding a horse, cycling, and using tampons.

2.6.7 Functional Problems Due to Vaginal Relaxation

Some women may experience problems such as the feeling of looseness during sexual intercourse, urinary incontinence problems, and decreased sexual pleasure, especially after childbirth or due to age-related vaginal relaxation. Vaginal enlargement and gaping can be source of distress for male partners and can cause hygienic problems. Genetic predisposition, poor quality collagen structure, aging, menopause, pregnancy, birth(s), smoking, alcohol consumption, and chronic irritations negatively affect both the appearance and the function of the genital area.

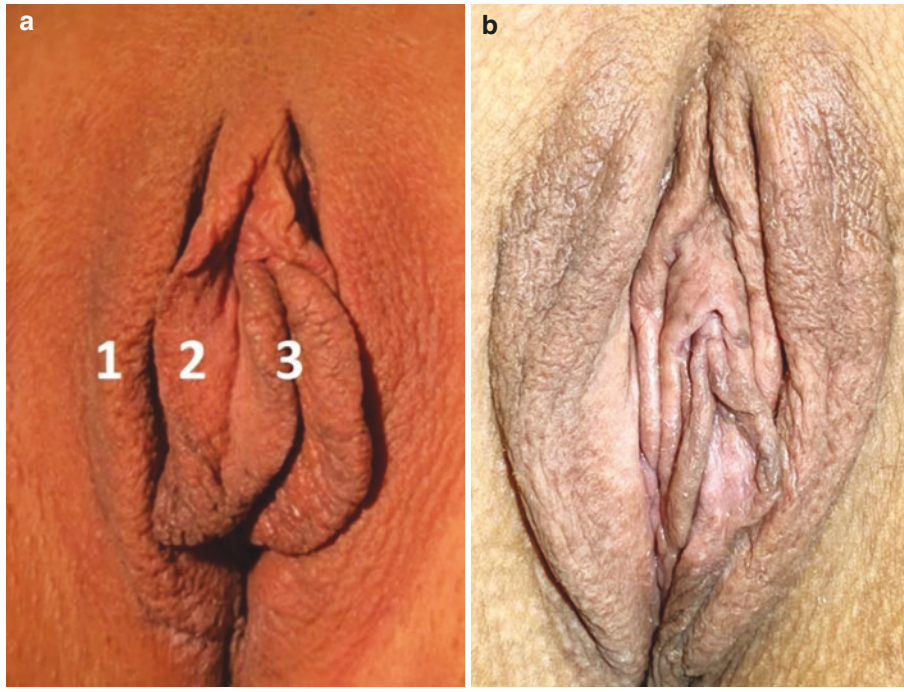

Fig. 2.7 Multilayered labia forms. Labia can have two layers ("double labia") (**a**), three layers ("triple labia") (**b**), and sometimes more. The smegma that is collected between the folds causes hygienic problems. Conversely, the abundance of anatomical variations of labia necessitates the application of different surgical techniques

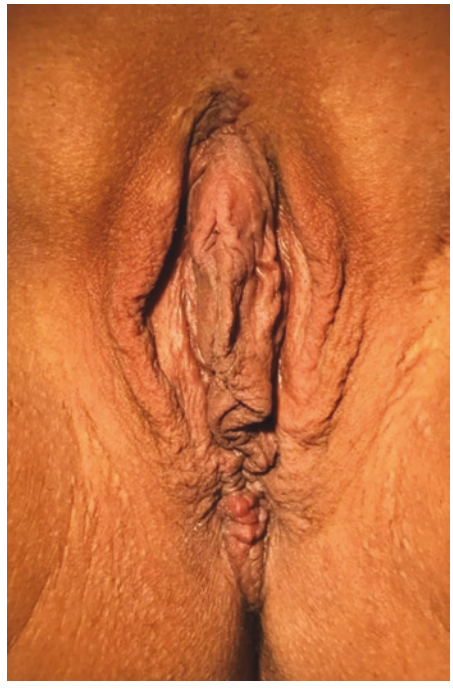

Fig. 2.8 Severe vulvar laxity (32 years old). It can develop especially due to rapidly weight gain and loss periods and bad collagen structure

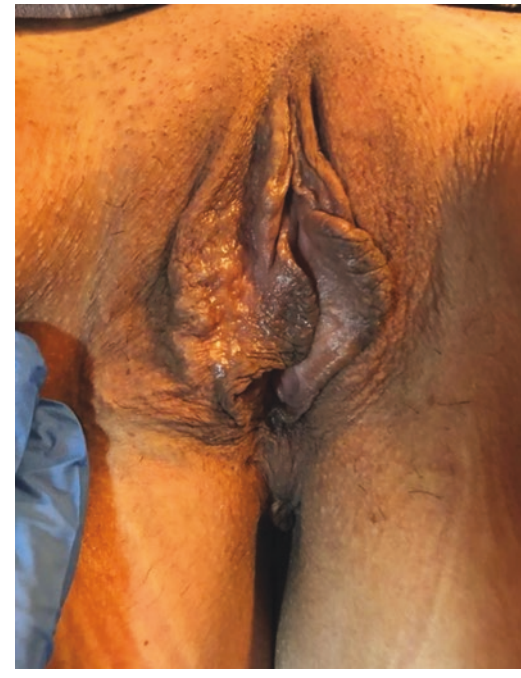

Fig. 2.9 Vulvar varicosities. They can persist, especially after birth, and cause complaints of pain, swelling, thrombosis, and dyspareunia

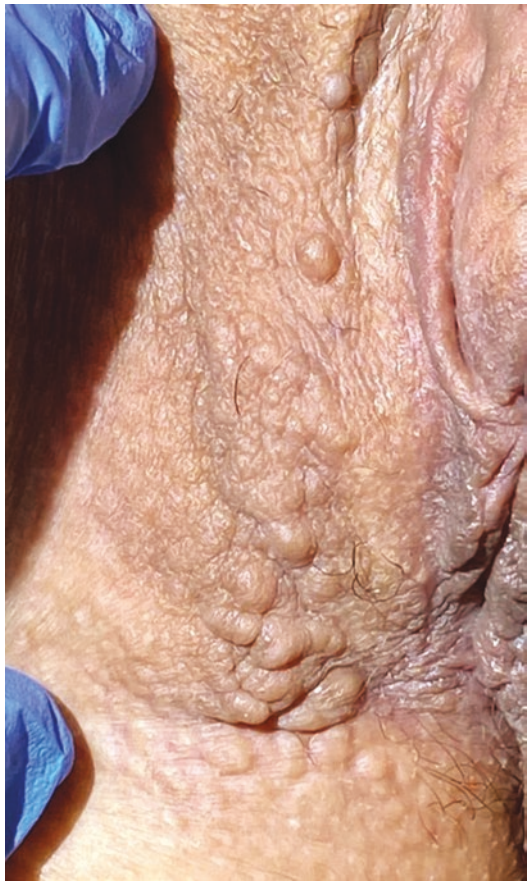

Fig. 2.10 Fox–Fordyce disease. A rare, chronic skin disorder characterized by pruritic follicular papules as a result of apocrine sweat retention due to keratinous obstruction and rupture of apocrine ducts

With aesthetic genital surgeries, such undesired complaints are reduced, positive changes occur in people's lives, and self-esteem is restored.

2.6.8 Dyspareunia

Some women may experience functional problems such as the feeling of pain due to stretching of labia during intercourse or force themselves to strain during urination due to large and long genital labia.

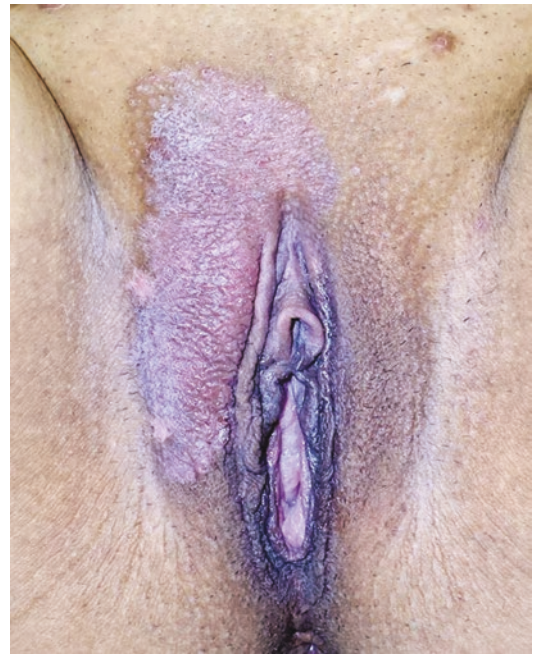

Fig. 2.11 Hyperplastic vulval dystrophy. A chronic inflammatory skin pathology affecting the vulva. It is characterized by thickened, hyperkeratotic lesions on the surface of the vulva with frequent evidence of scratching

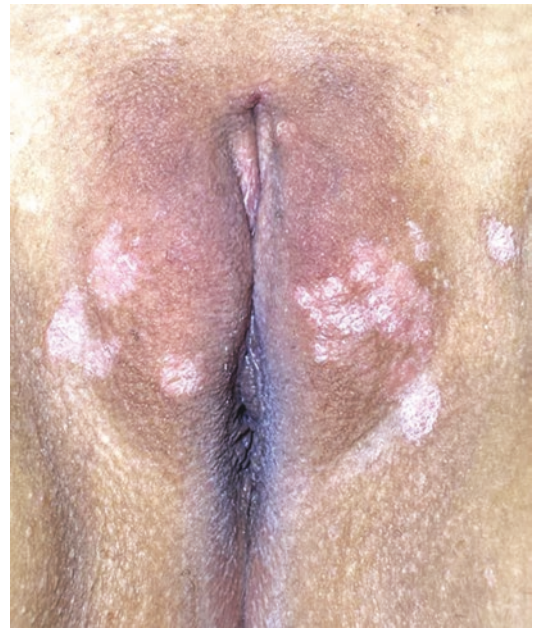

Fig. 2.12 Vulvar psoriasis. An autoimmune condition causing raised, red, or purple scaly patches on the skin

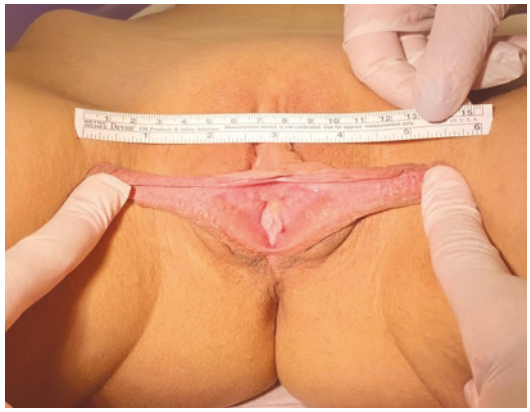

Fig. 2.13 Severe labial hypertrophy. The labia are almost 8 cm long, and the primary complaint of this patient is dyspareunia

2.7 An Example of Legal Aspects: "*Artwork Contract*" in Turkey

Legal surgical applications for aesthetic purposes are medical applications aimed at correcting the appearance disorders that have occurred spontaneously or as a result of a congenital or subsequent factor or to make the person look more beautiful even though there is no such deformity. Treatment/surgery can be done for beautification and functional reasons, sometimes for both purposes.

The surgeon performing the aesthetic operation is obliged to pay more attention and care due to the nature of the job. The most important feature that distinguishes aesthetic surgery operations from other surgical operations is that these operations directly change the external appearance of the person. Since the aesthetic appearance is of great importance in aesthetic surgeries, the responsibility of the surgeon who will perform the surgery also increases; the surgeon is expected to *"produce an artwork"* like an artist, in a way, by demonstrating the manual skill in addition to the responsibility imposed by other surgeons.

There is no special regulation in Turkish law for aesthetic surgeries. Aesthetic surgeries are considered within the scope of the "artwork contract" because they are surgical applications in the appearance of the human. In other words, the surgeon who performs aesthetic operation is expected to produce an artwork as in general artwork contracts. This is a contract in which the contractor undertakes to create an artwork and the employer undertakes to pay a price in return. One of the sides to the contract, the one who performs the surgical application (Contractor) agrees to create the work, and the other side (Employer) agrees to pay a price in return.

The physician has other responsibilities besides making the work:

- Making a diagnosis and choosing and applying the most appropriate treatment
- Performing the work personally
- Informing the patient (informed consent)
- Loyalty and care
- Recording (archiving)
- Maintaining confidentiality

The work produced by the physician should be regarded as a successful result, especially within the framework of medical science and aesthetic surgery rules.

The only responsibility of the patient is to pay for the service she received.

Corrections of existing defects in the tissue, that is, reconstruction surgeries, are also covered within the scope of the work. One of the most important issues here is that the work made can be noticed compared to its previous state.

In accordance with the physician's obligation to inform, the physician is obliged to inform the patient about the form, shape, scope, possible side effects, alternative solutions, possible results, and complications of the surgical intervention and obtain the patient's written consent. It is worth highlighting here, *the patient's consent must be taken by the physician himself/herself*. In case of any conflict, the burden of proof belongs to the physician, and the physician must prove that he/she informed the patient about the surgical intervention.

If additional aesthetic pathologies are seen during the operation, it is best not to touch them. It is recommended that no unspoken or undiscussed