

## Audit of Female Genital Aesthetic Surgery: Changing Trends in India

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### About the Author



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### Abstract

**Introduction** Female genital cosmetic surgery (FGCS) is undoubtedly a fast-growing speciality in the world with increasing demand for a variety of procedures to beautify the female genitals. In India, over the last few years, there

has been a steady growth in the interest for these procedures.

**Materials and Methods** A variety of FGCS procedures were performed on 76 patients from January 2012 to August 2016. The procedures performed were as follows: vaginal tightening, labia minoraplasty, labia majoraplasty, clitoral hood reduction, and hymenoplasty.

**Discussion** Based on FSFI scores, labia minoraplasty was more valuable as a cosmetic procedure and vaginal tightening was associated with better sexual function after surgery.

**Conclusion** FGCS is no doubt in its infancy in India. However, there is a steady rise in the awareness and demand for these procedures. A combination of procedures to improve individual components leads to improved aesthetic and functional aspects of female genitalia.

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## Introduction

Female genital cosmetic surgery (GCS) is undoubtedly a fast-growing sub-speciality with increasing demand for a variety of procedures to beautify the female genitals. GCS would typically include procedure(s) to enhance, reduce or refashion various anatomical components of the female genitals so as to cumulatively improve the aesthetic appearance of the female genitals. This beautification can be achieved by selective and judicious use of a combination of surgical as well as non-surgical procedures. However, the present study will consider surgical procedures alone. We believe that vaginal tightening should ideally not fall under GCS as it is done for improvement of sexual function rather than improving aesthetic appearance. However, it is included as a part of GCS in our study as it continues to be a part of genital beautification procedures in various international studies [1, 2].

## Materials and Methods

A variety of GCS procedures were performed on 76 patients from January 2012 to August 2016. The procedures performed were as follows: vaginal tightening, labia minoraplasty, labia majoraplasty, clitoral hood reduction and hymenoplasty. These procedures were performed either in isolation or as a combination.

The age demographics are shown in Table 1.

At the first visit, the patient complaints and wishes were noted. The various reasons that the patient was seeking GCS are as shown in Table 2.

An extensive questionnaire was used to record the patient's complaints, other uro-gynaecological complaints as well as obstetric history. A comprehensive Female Sexual Function Index (FSFI) was charted pre-operatively.

After a detailed examination, a specific discussion is made with each patient to determine the desired 'ideal aesthetic appearance' as well as to understand aspects of

**Table 2** Patient Complaints

Patient complaints	No. of patients (%)
Aesthetic concerns	43 (56.6)
Reduced sexual pleasure	40 (52.6)
Partner's choice	37 (48.7)
Dyspareunia	22 (28.9)
Poor hygiene	8 (10.5)

sexual function so that a customized surgical plan could be formulated.

A distribution of the number of patients undergoing the various GCS procedures is given in Table 3.

## Surgery Technique

*Labia majoraplasty (LMP)* Ostrzenski's method was employed with the incision placed in the vulval folds. The medial incision is placed just lateral to the medial hairline, and the lateral incision should leave at least 2 cm of pigmented labia majora laterally [3].

*Labia minoraplasty (LmP)* LmP was done by Alinsod's labiaplasty technique [4]. Incision was started right below the clitoris, leaving 1 cm of frenulum on either side. A 'canal' incision was made, leaving nothing at the introitus. The edges were sutured in layers with 5-0 monocryl, without tension.

*Clitoral hood Reduction* This was done in patients with LmP, to avoid an overtly prominent clitoris. "D & Inverted D"-shaped incisions were taken on either side. The cut edges are sutured in a two layers with 5-0 Monocryl, interrupted sutures [5].

*Vaginal rejuvenation* A full-length tightening of the vaginal tract was performed. Closure was done in three layers with absorbable sutures. Perineoplasty was done in all cases.

*Hymenoplasty* This was performed by freshening the edges and approximation of the hymenal membrane tags with an absorbable suture. If hymenal remnants were found insufficient, then a vaginal flap was taken from post-vaginal wall and sutured to raw area made on the anterior wall (like an inverted "V") [6].

A detailed record of the post-operative recovery and any complications was maintained. A detailed post-operative FSFI score was recorded 4 months after surgery.

In the post-operative phase, frequent cold fomentation, antibiotics, anti-inflammatory and stool softeners were advised. Daily oestrogen cream applications were started and continued for 8–12 weeks. In patients for whom vaginal rejuvenation was done, vaginal stretching exercises were started after 6 weeks.

**Table 1** Age demographics

Age group (years)	No. of patients	%
21–30	32	42.1
31–40	30	39.5
41–50	13	17.1
51–60	1	1.3
Total	76	

**Table 3** Distribution Of Various Surgical Procedures over the last 5 Years

Procedure	No. of patients				
	2012	2013	2014	2015	2016
Labia majoroplasty (LMP)	0	0	0	0	1
Labia minoroplasty (LmP)	2	3	5	5	5
Clitoral hood reduction + LmP	0	1	2	3	3
Vaginal rejuvenation + LmP	0	2	4	4	4
Vaginal rejuvenation + LmP + clitoral hood reduction	0	0	0	1	2
Vaginal rejuvenation	1	2	2	2	4
Vaginal rejuvenation with hysterectomy	0	1	1	3	2
Vaginal rejuvenation with TVT-O	0	0	1	2	1
Hymenoplasty	0	1	2	2	2
Total	3	10	17	22	24

## Results

Patients were asked to grade their post-operative satisfaction as ‘very satisfied’, ‘satisfied’ and ‘not satisfied’. Similarly, patients were asked whether they would recommend the doctor and procedure to a colleague or friend. Patient satisfaction grading is depicted in Table 4.

A total of 95% patients said that they would surely recommend the doctor and/or surgery to a friend or colleague.

The FSFI scores were used to document changes (if any) in the woman’s sexual function.

Some of the complications that were encountered are given in Table 5.

**Table 4** Patient Satisfaction Grading

Patient satisfaction	Percentage	No. of patients
Very satisfied	81.6	62
Satisfied	14.5	11
Not satisfied	3.9	3

**Table 5** Post - Op Complications

Complication	No. of patients	Percentage
Bleeding	0	
Hematoma	0	
Wound dehiscence	1	1.3
Dyspareunia	1	1.3
Scarring	0	
Reduced sensations	0	
Bulky/prominent clitoris	3	3.9
Scalloping of edges	1	1.3

## Discussion

The demand for female genital cosmetic surgery has increased steadily over the years as both women and men have become more aware of genital appearance. This may be attributed partly to proliferation of sexually explicit material in digital and print formats as well as to the increasing prevalence of genital hair removal. Successful genital cosmetic surgery procedures have further contributed to the increased demand for surgically improving the aesthetic appearance of female genitalia.

Generally, the goals of genital cosmetic surgery are as follows [3]:

1. Symmetrical labia minora that do not protrude beyond the labia majora in the standing position.
2. The clitoral hood is with few folds, short and not protruding.
3. Full labia majora such that they are not excessively fat and without excess lax skin.
4. A close-fitting vagina with improved vaginal sensations during sexual intercourse [7].

In our series, age of 81.6% patients ranged from 21 to 40 years (Table 1). This is the age group that is sexually most active and at the same time is maximally aware of their body. This could be explained due to the relative “infancy” stage of GCS in India as compared to Western statistics.

The two most common presenting complaints (Table 2) were dissatisfaction with appearance (aesthetic concern) and reduced pleasure during sexual intimacy (functional concern). The former was mainly due to undesirable changes in the labia minora/majora or clitoral hood. Consequently, the post-operative FSFI scores in these 46 patients (Table 6) did not significantly change after surgery. Similarly, the latter was the main concern for all patients who felt that their vagina was lax. Accordingly, the post-operative FSFI scores in those 39 patients who

**Table 6** Comparison Of FSFI Scores

Procedure	No. of patients	Average FSFI score	
		Before surgery	After surgery
LmP	46	22.4	26.4
Vaginal rejuvenation	39	19.5	27.0
Hymenoplasty	7	24.5	25.8

underwent vaginal rejuvenation (Table 6) were recorded to be above 26. A study on labia minora reduction reported by Ellsworth et al. [8], also encountered aesthetic concern as the major complain in all their patients.

Labia majoraplasty (LMP) is aimed to create youthful, full-appearing labia majora. The traditional labiaplasty as described by Felicio [9] may tighten the labia majora, but it may inadvertently make it flat. Labioplexy as described by Ostrzenski was performed in our patient. The anatomic tightening of Colles' fascia and reduction in excess skin without trimming of any subcutaneous fat lead to a more natural and full labia majora. At 6 months after surgery, the patient was very satisfied with the outcome and had intact sensations.

Labia minoraplasty (LmP) includes a wide variety of procedures devised to reduce the size of labia minora. There is no universal consensus on the precise dimension which can be categorized as hypertrophied labia minora [10]. The goals of LmP include: reduction in hypertrophied labia minora, maintenance of neurovascular supply, preservation of introitus and optimal texture and colour match at the labial edge [13]. A myriad of techniques have been described for LmP as follows [11, 12]:

1. Direct edge resection was first described by Caparo. Further refined by Felicio (lazy S incision) and Maas and Hage (running W incision). Alinsod's technique was used in all our patients. He has also described the use of radiofrequency in addition to linear excision for further refinements [4].

2. Central wedge excision technique was first described by Alter. This was further modified as 'star' labiaplasty by Tepper and 'flask' labiaplasty by Gonzalez.
3. Inferior wedge resection technique was described by Rouzier.
4. Posterior wedge resection techniques were described separately by Kelishadi and by Martincik and Malinovsky.
5. Choi and Kim described a de-epithelialization technique.
6. Composite reduction labiaplasty was described by Gress. This not only reduces the labia minora but also the clitoral hood excess as well as clitoral protrusion.
7. Fenestration labiaplasty was described by Ostrzenski.

A total of 26.1% (Table 3) of patients who underwent LmP had a concomitant clitoral hood reduction. The clitoris appeared prominent in the earlier cases in our series, as the procedure did not include clitoral hood reduction (Fig. 1). Now the author routinely advises for concomitant clitoral hood reduction. One patient had a minor wound dehiscence which healed without any surgical intervention. Although the FSFI score did not change dramatically after LmP, 95.7% (44 patients) of patients who underwent LmP were happy with their aesthetic outcome (Fig. 2).

Ellsworth et al. [8] have reported an algorithmic approach for managing hypertrophy of labia minora with 92% of their patients being "very satisfied". In our series, 85% of patients had Grade 3 and above labia minora hypertrophy. Furthermore, patients were awed by the

**Fig. 1** Prominent clitoris in C/O labia minoraplasty with vaginal tightening—pre-op and immediate post-OP



**Fig. 2** Labia minoraplasty by Alinsod's technique—*intra-op* with markings shown, and immediate post-op

relatively complicated surgical plans using wedge resections and local flaps for redesigning the labia minora. Thus given a choice the patients opted for the relatively straightforward technique.

Twelve patients underwent clitoral hood reduction along with labia minoraplasty. We routinely use magnification during this surgery and avoid using the electrocautery in this area to avoid damage to the delicate clitoral nerves [12]. In our series, all the patients who underwent clitoral hood reduction were uniformly happy with the reduction of skin folds over the clitoral region.

Ostrzenski has succinctly defined vaginal rejuvenation as a surgical intervention that transforms vaginal gross and functional anatomy to achieve more enjoyable sensation during vaginal sexual intercourse [7]. The vaginal canal was tightened to the patients desire for size and tightness,

usually permitting two fingers only snugly after the procedure (Fig. 3). Postoperatively, one patient complained of dyspareunia even 3 months after surgery. The problem was resolved with the use of lubrication during coitus. One other patient required additional training for vaginal stretching exercises to achieve intercourse, as she found it painfully tight. The post-operative average FSFI scores in patients who underwent vaginal rejuvenation improved from 19.5 to 27 (Table 6). This is a clear indication that vaginal rejuvenation surgery satisfactorily addresses the functional concerns of patients and improves sexual function.

Non-surgical devices such as radiofrequency and lasers have been reported to be extremely effective in achieving significant vaginal tightening as well as enhancing lubrication after therapy [13]. These options are currently being



**Fig. 3** Vaginal tightening—*pre-op* and immediate post-op



**Fig. 4** Hymenoplasty—pre-op and intra-op after reconstruction

explored by the primary author to assess their efficacy as vaginal rejuvenation modality by themselves and as an adjuvant technique.

All the seven patients who underwent hymenoplasty were very satisfied with the result (Fig. 4). In five of these patients, hymenoplasty was performed as a revirgination procedure prior to marriage. Although the term revirgination is scientifically incorrect [2], it is commonly used by patients. In a scenario where no hymenal membrane tags are found, vaginal mucosal flaps were used [6, 14].

The GCS procedures were often done in combination with one another. Therefore, the post-operative satisfaction scoring may be a cumulative assessment of the overall improvement achieved in the aesthetic as well as functional aspects of the female genital anatomy.

## Conclusion

Female GCS is no doubt in its infant stage in India. However, there has been a steady rise in the awareness as well as demand. The authors have resorted to one technique primarily to address the aesthetic and functional goals of patients for individual components of the female genital area. However, we would like to stress that a combination of procedures to improve individual components is a better option than isolated surgery and leads to better improvement in aesthetic and functional concerns of patients. Newer techniques are fast emerging on the horizon, but adequate understanding and training are mandatory for successful outcomes.

## Compliance with Ethical Standards

**Conflicts of interest** There is no conflict of interest for the author and co-author.

**Ethical approval** All procedures performed in studies involving human participants were standard procedures done after an informed consent, and hence no special ethical approval has been taken from any committee.

**Informed consent** Informed consent was obtained from all individual participants included in the study for the various procedures, photographs for medical references, and permission to use these photographs for academic scientific journals, conferences, and presentations.

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