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Original Research Article

Gender reassignment surgery: male to female, a short-term analysis of post-operative outcome

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ABSTRACT

Background: The term gender dysphoria describes a heterogenous group of individuals who express varying degree of dissatisfaction with their anatomical gender and the desire to possess the secondary sexual characteristics of the opposite sex. For these individuals, gender reassignment surgery (GRS) plays a pivotal role in relieving their psychological discomfort. The literature is limited in terms of the outcome of surgery. In this study, we present surgical outcome and post-operative complications in Male to Female GRS.
Methods: This is a retrospective cohort study on consecutive patients who underwent male to female (MtF) GRS at the Department of General Surgery, Mahatma Gandhi Medical College and Research Institute, Puducherry, India from March 2015 to July 2017 and demographic profile along with surgical complications were registered and analysed.
Results: During the study period, a total of 59 MtF GRS were performed. The median age of the patients was 25.4 years (range 19-39). Major complications like rectovaginal fistula and pulmonary embolisms and deep venous thrombosis were not observed. The most common complications were wound infection and reactionary bleeding from the urethra.
Conclusions: Gender reassignment surgery plays a pivotal role in relieving the psychological discomfort of Gender Dysphoria individuals. MtF GRS can be performed with a low rate of complications. The collaborative effort between the surgeon, behavioural scientist, and a medical physician responsible for hormonal therapy is recommended. Our short-term analysis revealed the low rate of complications. Surgical experience is the key factor to minimize the complication rate.

Keywords: Complications, Gender dysphoria, Gender reassignment surgery, Male to female, Transsexual

INTRODUCTION

The term Gender Dysphoria formerly known as gender identity disorder describes a heterogenous group of individuals who express varying degree of dissatisfaction with their anatomical gender and the desire to possess the secondary sexual characteristics of the opposite sex.[1] The individual has the belief of being born in the wrong sex.[2] Suggested causes of gender dysphoria have historically been hypothesized to be psychological, biological or a mixture of both.[3-5] This condition is undesirable for both the patient and the society and nonsurgical treatment continues to be expensive, time-consuming, and enormously disappointing. After appropriate diagnosis for these individuals Gender reassignment surgery (GRS) plays a pivotal role in relieving their psychological discomfort.[6] The goal of surgical treatment is lasting personal comfort with one's own gender and to maximize overall psychological wellbeing and self-fulfilment.[7] In order to get a desirable outcome, a collaborative effort between the surgeon, behavioural scientist and medical physician responsible for hormonal therapy is

recommended. The literature is limited in terms of the outcome of surgery.

Techniques for MtF GRS are well documented in the literature. The proposed surgery has to create a perineogenital complex as feminine in appearance and function as possible and free of poorly healed areas, scars, and neuromas.[8] The Penile skin inversion technique is considered the state of the art for vaginoplasty in MtF transsexuals.[9-11] Other techniques like recto sigmoid flap, local flaps, and isolated skin flaps should only be considered in secondary cases.[8] In this study, we present surgical outcome and post-operative complications in MtF GRS.

METHODS

All MtF transsexual patients who underwent GRS at the department of general surgery at Mahatma Gandhi medical college and research centre, Puducherry, India between March 2015 and July 2017 were included. In our centre, we are getting a steady number of cases and two primary surgeons have been involved in all cases. The aim of the study was to investigate demographic profile, mortality, short term complications. This study obtained clearance from institute ethical committee. Standard guidelines adhered for the cohort study. The data were retrieved from medical records from the institute and registered in excel program in which analysis was done. To eliminate the risk of missing patients, two registries, an operation register and an internal register in the transgender clinic were used to identify patients.

All the patients were initially evaluated by a team of psychiatrists and the diagnosis of gender Dysphoria was made. Surgery was performed largely with penile skin inversion technique for vaginoplasty.[12,13] And for 26 patient, vaginoplasty was not done as per their request and for them, vulvoplasty was alone done. In vulvoplasty, a creation of labia majora and minora was done with the use of scrotal and penile skin respectively. All the patients were offered single stage surgery. Epidural with spinal is the standard anaesthesia for all patients. We used routinely Inj. cefazolin 1g for antibiotic prophylaxis.

The major steps of the surgery were

- Bilateral orchidectomy at superficial inguinal ring
- Penile disassembly into penile skin, corpus and urethra
- Total penectomy
- creation of neovaginal cavity and lining of this cavity using penile skin inversion technique
- Neourethroplasty and finally construction of the labia (vulvoplasty).

Oral diet started on the next day and Foley's catheter removed on 8th the post-operative day in all patients. We prescribed 4 weeks of absence from hormonal treatment before surgery and two weeks after surgery.

RESULTS

A total of 59 cases were performed in two and half year period, from March 2015 to July 2017. The patients were aged between 19 and 39 (median 25.5). Two patients were positive for hepatitis B surface antigen and rest all negative for HIV, Hepatitis B, and HCV screening. The mean operation time was 155 minutes and mean post-operative stay was 11 days (Table 1).

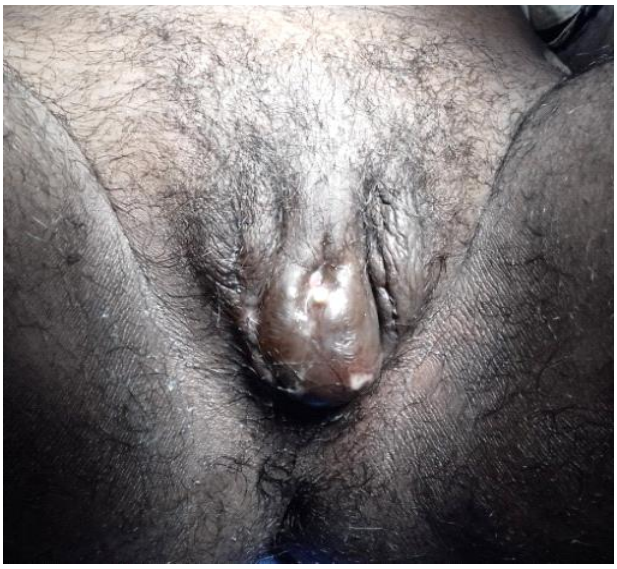

Figure 1: Surgical site infection.

Table 1: MtF GRS- Demographics.

Total number of patients (n=59)	Mean	Range
Age (in years)	25.4	19-39
Operation time (in minutes)	155	110 -205
Post op stay (in days)	11	7-37

Note: n=total number of patients operated between March 2015 to July 2017

Further, our patients were divided into two groups. Those who underwent vulvoplasty alone were considered as group A and those who underwent vaginoplasty in addition to vulvoplasty were considered as group B. The vaginoplasty was done by using penile skin inversion technique. Results were analyzed overall and between the two groups.

From group A, one patient developed post-operative bleeding from urethra which required blood transfusion. Another patient developed skin flap necrosis which was managed surgically (limited necrosectomy). Minor surgical site infection was observed in one patient and was managed with oral antibiotics. From group B, one patient developed post-operative bleeding from the urethra which required blood transfusion and surgery for bleeding control. The same patient later developed deep space surgical site infection which required the third operation for wound management (Figure 1). Minor surgical site infection was noticed in two patients was

managed only with an oral antibiotic. Two-thirds of patients from group B developed vulval oedema in the first post-operative day and subsided eventually. Post-operative reactionary haemorrhage and surgical site infections were the most common complications. Serious complications like deep venous thrombosis, pulmonary embolism, rectovaginal fistula and early urethral stricture were not observed (Table 2).

Table 2: Comparison between two groups on short term complications after primary MtF GRS 2015-2017.

Demographics	Group A (n=26) (Vulvoplasty alone)		Group B (n=33) (Vulvoplasty+vaginoplasty)	
	Mean	Range	Mean	Range
Operation time (in minutes)	147	110-195	166	125-215
Post-operative stay (in days)	11	8-17	11	7-37
Short term complications				
Variables	**Group A (n=26) (Vulvoplasty alone)**		**Group B (n=33) (Vulvoplasty+vaginoplasty)**	
Bleeding#	1 (From urethra)		1 (From urethra)	
Skin flap necrosis	1 (labia majora)		Nil	
Deep space infection	Nil		1	
Minor surgical site infection	1		2	
Deep venous thrombosis	Nil		Nil	
Pulmonary embolism	Nil		Nil	
Rectovaginal fistula	NA		Nil	
Early urethral stricture	Nil		Nil	
Mortality	Nil		Nil	

NA- not applicable; # - Bleeding required blood trasfusion/Reoperation

Table 3: Comparison of current study to previously published studies on short term complications of male to female GRS.

Complications	Present (n=59)	Jarolim et al (n=129)	Sigurjonsson et al (n=205)
Post-operative bleeding	3.00%	4.50%	11.00%
Wound infection	6.70%	*	10%
Wound dehiscence	0.00%	5.20%	2.00%
Rectovaginal fistula	0.00%	1.50%	2.00%
Pulmonary embolus	0.00%	*	1.00%
Deep vein thrombosis	0.00%	*	0.00%
Mortality	0.00%	0.00%	0.00%

*Not available

DISCUSSION

The goal of surgical management is lasting personal comfort with the gendered self in order to maximize overall psychological wellbeing and self-fulfillment. Psychoanalyst viewed Sex Reassignment Surgery as psychosurgery and argued that treatment of transsexualism is mainly surgical as other modes of treatments are enormously disappointing. The surgeon must actively participate in understanding the patient's diagnosis and hormonal and medical therapies. We offered single stage surgery for all of our patients. The surgery technique used largely is penile disassembly and inversion vaginoplasty.

A total of 59 patients were operated in our institute in the given time frame in which 33 patients were given with vaginoplasty in addition to genital reconstruction (vulvoplasty). In our study, we observed a very few complications. The type and the rate of complications were almost similar in both groups. Only one patient from each group developed major complications like post-operative bleeding required blood transfusion/reoperation and one patient from group B developed deep space infection which was optimized surgically. Another patient from group A developed skin flap necrosis which also was managed surgically, and we have no cases of pulmonary embolism and deep vein thrombosis and rectovaginal fistula.[14] When compared to previously published studies our overall complications are similar in type and less in rate to that of other centres (Table 3).[15-18] It is very clear that adding vaginoplasty in addition to vulvoplasty in male to female transsexuals gives no added morbidity and mortality and can be considered as a safe procedure. The Penile skin inversion

technique is considered the state of the art for vaginoplasty in MtF transsexuals.

CONCLUSION

Gender reassignment surgery plays a pivotal role in relieving the psychological discomfort of Gender Dysphoria individuals. MtF GRS can be performed with a low rate of complications. It has been a viable and safe procedure for increasing number of patients. The collaborative effort between the surgeon, behavioural scientist, and a medical physician responsible for hormonal therapy is recommended. Combining genital reconstruction with vaginoplasty will not give any added morbidity or mortality. Penile disassembly and inversion vaginoplasty is considered the state of the art for vaginoplasty in male-to-female transsexuals. Our short-term analysis revealed the low rate of complications.

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