CASE REPORT

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Delayed Surgical Reconstruction of Chronic Fourth-Degree Perineal Laceration: Impact on Female Sexual Function - A Case Report

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ABSTRACT

Introduction: Among the gravest complications occurring during childbirth are fourth-degree perineal lacerations, characterized by complete disruption of the anal sphincter mechanism with potential for persistent sequelae including fecal incontinence and impaired sexual health. These traumatic injuries profoundly compromise women's wellbeing, with sexual health disturbances documented in 30-60% of affected women three months following delivery. The Female Sexual Function Index (FSFI) provides validated assessment across six critical dimensions: libido, arousal capacity, vaginal lubrication, orgasmic function, overall satisfaction, and dyspareunia.

Case presentation: We present the clinical course of a 33 year old multiparous woman who sought consultation nine months postpartum with chronic fourth-degree perineal disruption accompanied by anal incontinence and sexual dysfunction. Initial FSFI assessment revealed a score of 16.2, demonstrating substantial sexual impairment. Surgical intervention employed a comprehensive ten-stage reconstruction protocol involving systematic restoration of anal mucosa, internal and external sphincter components, vaginal wall integrity, and perineal tissue architecture. At five-month postoperative evaluation, the patient exhibited complete continence restoration and remarkable sexual function recovery, with FSFI scoring advancing to 28.0, indicating normalization of sexual health parameters. Quality of life indicators demonstrated meaningful enhancement across all assessed dimensions.

Conclusion: Secondary reconstruction of chronic fourth-degree perineal disruptions can successfully restore both continence mechanisms and sexual function when executed using meticulous surgical methodology. Prompt recognition and appropriate timing of intervention remain paramount for achieving optimal patient outcomes and restoring quality of life.

Keywords: Fourth-degree perineal laceration, delayed repair, sexual impairment, fecal incontinence, Female Sexual Function Index..

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INTRODUCTION

Fourth-degree perineal lacerations constitute the most extensive category of obstetric anal sphincter injuries, encompassing complete disruption of perineal body structures, external sphincter complex, internal sphincter mechanism, and rectal epithelium. These traumatic injuries manifest in approximately 0.5-3% of vaginal births and represent among the most consequential complications affecting women's sustained wellbeing.[1,2]

Birth canal trauma resulting in internal sphincter disruption represents a profoundly impactful complication with substantial implications for female quality of life. Fecal incontinence syndrome, characterized by involuntary passage of solid or liquid bowel contents, develops secondary to compromised anal sphincter control mechanisms leading to unintended premature release of feces or flatus.[3] The psychological and interpersonal ramifications contribute markedly to diminished life quality, frequently precipitating social withdrawal, depressive symptoms, and relational strain.[3]

Dyspareunia alongside additional sexual concerns, including diminished libido, during the postpartum interval constitute well-documented complications, with sexual health issues occurring at rates of 30–60% three months after giving birth and 17–31% six months later. The underlying causation proves multifactorial, encompassing anatomical disruption, cicatrix formation, painful intercourse, and psychological components involving apprehension and anxiety regarding sexual engagement.[4]

The Female Sexual Function Index (FSFI) is a multifaceted evaluation tool that can be used to examine the sexual health of women. The 19 items in this questionnaire are divided into six domains that look at orgasmic function, lubrication adequacy, sexual desire, arousal capacity, sexual satisfaction, and pain perception. The instrument proves valuable for early identification of female sexual dysfunction complaints and delivers validated measurements supporting overall research integrity.[5]

Female Sexual Function Index (FSFI) Assessment Framework

There are six domains and 19 questions in the FSFI, each with scoring criteria specific to that domain (Table 1)[6]

FSFI Score Interpretation:

- Score ≥26.55: Normal sexual function
- Score ≤26.55: Sexual dysfunction present

While immediate primary reconstruction of fourth-degree lacerations remains the preferred approach, delayed presentation or unsuccessful primary attempts necessitate secondary surgical intervention.[10] This case presentation seeks to elucidate the relationship between delayed reconstruction of chronic fourth-degree perineal disruptions and female sexual function alongside quality of life, demonstrating the efficacy of secondary surgical repair in restoring both continence and sexual health.[6]

CASE PRESENTATION

A 33-year-old woman with prior vaginal delivery presented to our urogynecology service nine months following an otherwise uncomplicated vaginal birth co mplicated by fourth-degree perineal disruption. The patient described ongoing fecal incontinence involving both solid and liquid stool consistency, significantly impacting daily functioning and social participation. Furthermore, she reported severe dyspareunia, diminished sexual interest, and comprehensive sexual dysfunction since childbirth.

Clinical examination demonstrated complete perineal body separation with visible sphincter complex disruption and formation of a characteristic skin bridge indicative of chronic fourth-degree perineal laceration. The posterior vaginal wall exhibited substantial cicatrization and anatomical distortion, with obliteration of normal anatomical reference points. Digital rectal assessment confirmed absent anal sphincter contractility and disruption of both internal and external sphincter components.

Preoperative evaluation utilizing the FSFI questionnaire yielded a total score of 16.2, considerably below the dysfunction threshold of 26.55, indicating severe sexual dysfunction spanning multiple domains.[9] Domain-specific analysis demonstrated particularly diminished scores in arousal capacity (1.8), vaginal lubrication (1.5), orgasmic function (1.6), and satisfaction (2.0), with moderate impairment in desire (2.4) and pronounced pain scores (4.8) indicating substantial dyspareunia.

Table 1.

Domain	Question Numbers	Score Range	Multiplier	Minimum Score	Maximum Score	Dysfunction Threshold
Desire	1,2	1-5	0.6	1.2	6	≤2.4
Arousal	3,4,5,6	0-5	0.3	0	6	≤2.4
Lubrication	7,8,9,10	0-5	0.3	0	6	≤3.0
Orgasm	11,12,13	0-5	0.4	0	6	≤2.8
Satisfaction	14,15,16	0-5	0.4	0.8	6	≤3.6
Pain	17,18,19	0-5	0.4	0	6	≤2.0
Total Score				2	36	**≤26.55**

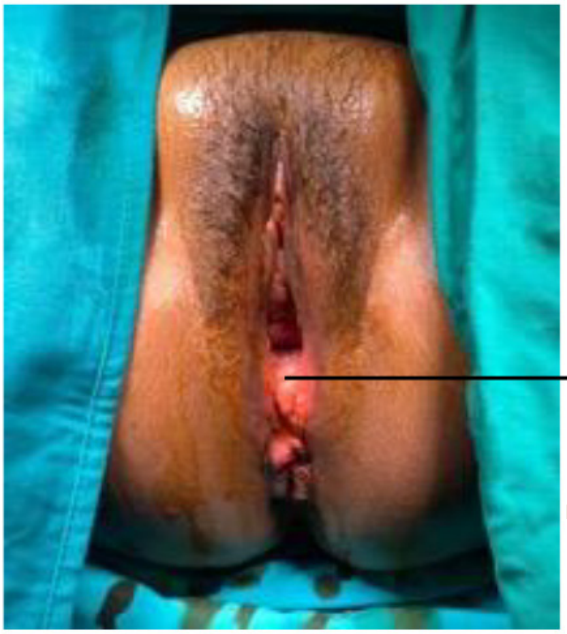

Figure 1. Demonstrates chronic fourth-degree perineal laceration nine months post-vaginal delivery (Skin bridge formation)

Surgical Technique

The delayed repair was performed under spinal anesthesia employing a systematic ten-stage approach for fourth-degree perineal laceration repair based on established protocols:[7]

Stage 1: Patient positioning in lithotomy configuration with optimal illumination and surgical field sterilization

Stage 2: Comprehensive clinical assessment including vaginal and rectal examination

Stage 3: Mobilization and reconstruction of anal mucosa utilizing 3-0 polyglactin sutures

Stage 4: Meticulous rectal assessment to confirm mucosal integrity

Stage 5: Identification and reconstruction of internal anal sphincter employing interrupted 2-0 polydioxanone sutures

Stage 6: Posterior vaginal wall reconstruction utilizing layered closure methodology

Stage 7: External anal sphincter reconstruction employing end-to-end or overlapping technique with 2-0 polydioxanone sutures

Stage 8: Completion of inferior vaginal wall reconstruction

Stage 9: Restoration of hymenal remnants and posterior perineum

Stage 10: Final closure of perineal musculature and integument using absorbable suture material

Postoperative management incorporated prophylactic antimicrobial therapy, stool softening agents, and pelvic floor physiotherapy initiation at six weeks post-surgery consistent with current evidence-based guidelines.[8]

Postoperative

Five-month postoperative assessment revealed exceptional functional recovery. The patient reported complete resolution of fecal incontinence with normalized bowel control mechanisms. Clinical examination demonstrated well-healed surgical sites with restored anatomical architecture and adequate anal sphincter contractility upon digital examination.

Sexual function assessment employing the FSFI questionnaire demonstrated remarkable improvement, with total score advancing from 16.2 to 28.0, surpassing the normal function threshold of 26.55.9 Domain-specific improvements encompassed: desire (2.4 to 4.2), arousal (1.8 to 4.5), lubrication (1.5 to 4.8), orgasm (1.6 to 4.2), satisfaction (2.0 to 5.1), and pain (4.8 to 5.2), indicating resolution of dyspareunia and restoration of normal sexual function across all measured parameters.

Quality of life measurements demonstrated substantial enhancement, with the patient reporting restored confidence in social contexts and overall satisfaction with surgical outcomes.[3] Fecal incontinence, perineal discomfort, dyspareunia, and sexual dysfunction complaints resolved completely. The patient achieved normal sexual function and improved life quality. No complications associated with surgical reconstruction were documented during the follow-up interval.

DISCUSSION

This case illustrates the profound impact of fourth-degree perineal lacerations on female sexual health and the potential for complete restoration through appropriate delayed surgical reconstruction. The preoperative FSFI score of 16.2 represents severe sexual dysfunction, falling substantially below the established cutoff of 26.55 for normal sexual function.[9] This finding aligns with contemporary literature documenting elevated rates of sexual dysfunction following obstetric anal sphincter injuries.[9]

The etiology of sexual dysfunction in our patient proved multifactorial, encompassing both anatomical and psychological dimensions. The anatomical disruption created by the fourth-degree laceration resulted in altered vaginal architecture, cicatrix formation, and compromised perineal support mechanisms. These structural changes contributed to mechanical dyspareunia, as evidenced by the diminished pain domain

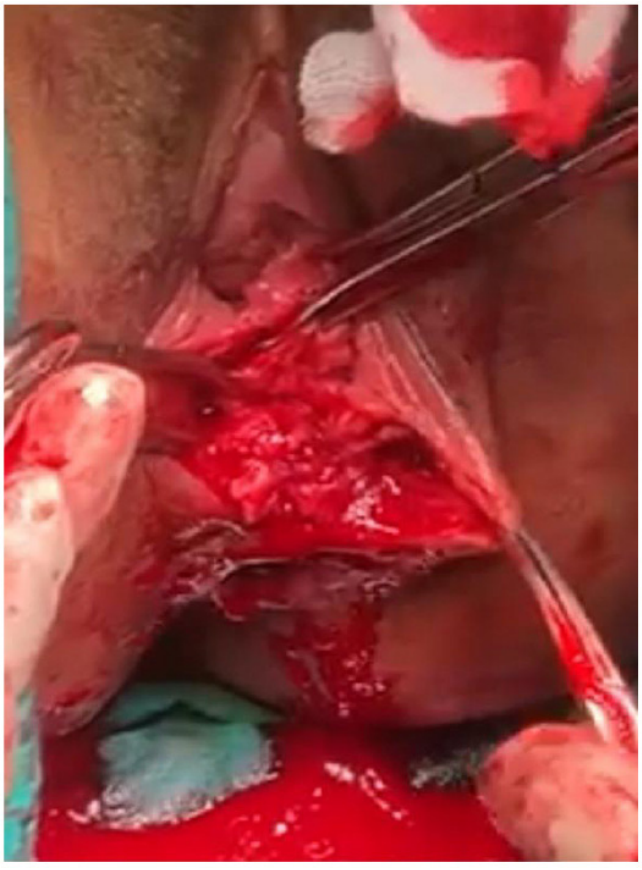

Figure 2. Demonstrates intraoperative reconstruction of chronic fourth-degree perineal laceration

Figure 3. Post-reconstruction appearance

score. The associated fecal incontinence likely contributed to psychological barriers to intimacy, affecting arousal capacity, lubrication adequacy, and overall sexual satisfaction.[10]

The remarkable postoperative improvement, with FSFI scores advancing to 28.0, demonstrates the potential for complete sexual function restoration following appropriate surgical intervention. This 11.8-point improvement represents not merely statistical significance but also clinically meaningful change that substantially impacts quality of life.17 The improvement was observed across all six FSFI domains, suggesting comprehensive restoration rather than isolated improvements in specific aspects of sexual function.[10]

Domain-specific analysis reveals compelling patterns in recovery trajectory. The pain domain showed dramatic improvement (4.8 to 5.2), indicating near-complete resolution of dyspareunia. This finding supports the hypothesis that anatomical restoration through surgical repair directly addresses the mechanical causes of sexual pain. Similarly, improvements in lubrication and arousal domains suggest restoration of normal physiological sexual responses, possibly related to improved genital perfusion and reduced anxiety regarding sexual activity.[11]

The satisfaction domain demonstrated substantial improvement (2.0 to 5.1), likely reflecting the multifactorial nature of sexual satisfaction, which encompasses physical comfort, emotional wellbeing, and relationship dynamics.The resolution of fecal incontinence undoubtedly contributed to improved confidence and reduced anxiety during intimate encounters.[12]

Several factors may have contributed to the successful outcome observed in this case. The timing of reconstruction, performed nine months post-delivery, permitted adequate resolution of acute inflammatory processes while preventing further anatomical distortion. The systematic surgical approach addressing each anatomical component sequentially ensured comprehensive reconstruction of the anal sphincter complex and perineal support structures.[7]

The contribution of multidisciplinary care cannot be understated. Postoperative pelvic floor physiotherapy likely contributed to optimal functional outcomes by promoting appropriate muscle coordination and addressing any residual weakness or dysfunction.[13] Additionally, patient education and counseling regarding expected recovery trajectory may have helped address psychological barriers to sexual activity resumption.

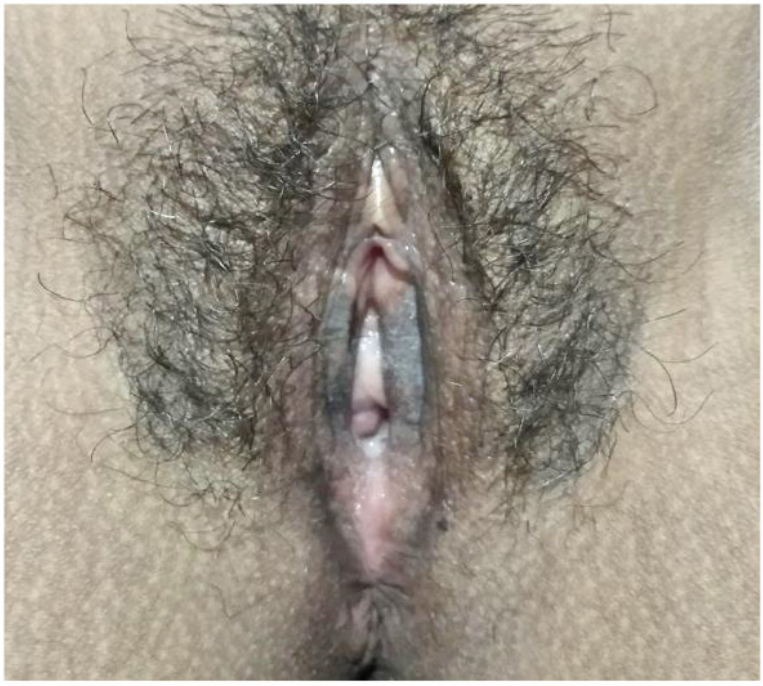

Figure 4. Clinical appearance five months following reconstruction of chronic fourth-degree perineal laceration

Comparison with existing literature reveals limited data specifically examining FSFI outcomes following delayed reconstruction of fourth-degree lacerations. Most studies focus on continence outcomes, with sexual function often assessed using less comprehensive instruments or not assessed at all.[14] Our findings suggest that sexual function assessment should be a routine component of follow-up care for women undergoing delayed perineal reconstruction.

The successful outcome in this case challenges the notion that delayed presentation necessarily compromises results. While primary repair remains the preferred approach, our findings suggest that delayed reconstruction can achieve excellent functional outcomes when performed using appropriate techniques and multidisciplinary care approaches.[13]

Anal sphincter disruption represents one of the most significant complications affecting women's quality of life and sexual function. This case demonstrates that delayed reconstruction of chronic fourth-degree perineal lacerations can improve both sexual function and quality of life for patients when appropriate surgical techniques and comprehensive care are employed.[15]

CONCLUSION

This case demonstrates that delayed reconstruction of chronic fourth-degree perineal lacerations can effectively restore both anal continence and sexual function. The improvement in FSFI scores from 16.2 to 28.0, crossing the threshold from sexual dysfunction to normal function, represents a clinically significant outcome that substantially impacts quality of life. The systematic surgical approach, combined with multidisciplinary postoperative care, appears crucial for achieving optimal results.[7]

Anal sphincter disruption constitutes one of the most impactful complications affecting women's quality of life and sexual function.[3] Delayed reconstruction of chronic fourth-degree perineal lacerations can improve sexual function and quality of life when performed using appropriate surgical techniques and comprehensive patient care.[16]

These findings underscore the necessity of systematic sexual function evaluation in women with fourth-degree perineal lacerations and demonstrate that complete functional restoration remains achievable through timely delayed surgical intervention. Healthcare providers should recognize the profound impact these injuries can have on sexual health and ensure that sexual function assessment and restoration are integral components of patient care.[9]

DISCLOSURE

Conflict of Interest

The authors declare no competing interests regarding this case report.

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This case report received no external funding.

Ethical Approval

The patient gave written informed consent for this case report and the clinical photos that go with it to be published. Institutional approval to conduct the research was obtained from Dr. Zainoel Abidin General Hospital prior to data collection.

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