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Case report

Reconstructive Surgery After Female Genital Mutilation: A Multidisciplinary Approach

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Abstract. *Background and aim:* Female Genital Mutilations (FMGs) are all interventions involving partial or total removal of external female genital apparatus, perpetrated not for therapeutic purposes. This review aims to describe a multidisciplinary approach to clinical management of women with FGM, requiring reconstructive surgery and therapeutic deinfibulation. Furthermore, these traditional procedures are harmful to women's physical integrity, being able to result in severe psychological damage with strong inhibitions in sexual and emotive life. *Methods:* Clinical management followed internal protocol implemented at the obstetric Pathology of IRCCS Burlo Garofolo of Trieste, in the framework of the regional project "Female genital mutilation and women immigrants: a draft integrated training and support person," supported by Regione Friuli Venezia Giulia, Italy. We have enrolled in our protocol 15 women that came in our Hospital spontaneously. Here, we present a case of a 38-year-old woman, who had undergone ritual FGM type III with a deep groove scar. She had suffered pain and strong limitations to sexual intercourses. *Results:* We performed a reconstructive surgery of the mutilated genital tissue and a therapeutic deinfibulation. The deep groove scar was successfully removed with a multidisciplinary approach. We achieved careful evaluation, both clinical and psychological, of the patient, before surgery. *Conclusions:* Reconstructive surgery for women who suffer sexual consequences from FGM is feasible. It restores women's natural genital anatomy, allowing to improve female sexuality. (www.actabiomedica.it)

Key words: female genital mutilation, deinfibulation, multidisciplinary approach, psychological aspects

Introduction

The World Health Organization in 2008 defines FGMs as "all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs for cultural or other non-medical reasons" (1,2). It is estimated that 200 million women in the world have undergone genital mutilation and that 3 million girls are at risk of undergoing these procedures every year, generally before 15 years of age (3). It is reported in 28 countries of Sub-Saharan Africa but also in Yemen, Oman, Jordan as well as in some Iraqi communities (2). Regrettably, it is reported among immigrate communities in Europe, Australia, New Zealand, Canada and the United States, too (4). According to WHO classification, we could classify FGMs into four types: type I, includes partial or total removal of the clitoris (sunnah) and the prepuce (clitoridectomy); type II, the removal of clitoris and prepuce, with partial or total excision of the labia minora (excision); type III (infibulation - pharaonic circumcision) is the most invasive form of FGM because it consists in removal of clitoris, labia minora and most of the labia majora; and type IV, which comprises all other harmful procedures to the female genitalia (e.g. stretching, piercing, incising and cauterization

of clitoris and labia minora and majora (2,5). FGMs is are carried out in girls of varying ages depending on but the type of mutilation change according to and on the ethnic origin (6,7). Clinically speaking, such practices can lead to several organic and obstetric disorders (8). The first can be classified in short, medium or long term disorders. Immediate or short-term complications comprise bleeding, infections, fever, dysuria, oliguria, septicaemia, shock, damage to adjacent tissues and death. Among medium-term disorders, there are: vulvovaginitis, pelvic infections, cysts, vulvar abscesses, inclusion cysts, keloid scars, keloid, barthonilitis, neurinoma, surgery-related reactive depression and subsequent consequences on the body itself, eating disorders leading to malnutrition and anaemia. Long-term complications could be dyspareunia, dysmenorrhoeal, incontinence (especially post partum), pelvic infections, recurrent cystitis, retention cysts, recto-vaginal fistulas, hypersensitivity in the genitalia area and infertility. On the other hand, FGMs determine obstetric complications, involving both mother and foetus (9,10): in fact, vulvar fibrous scar tissue does not allow proper dilation during delivery (10). Prodromal period tends to be rather long, leading to higher incidence of recto-vaginal fistulas (11), uterus breakage, post-partum bleeding, perineal, urethral and rectal lacerations (12). The most recurrent solution is therefore the caesarean section (13). If the "reopening" is not promptly carried out, the delivery slows, the foetus might stop moving forward with subsequent poor oxygenation that leads to severe consequences such as neuronal damages, intrauterine death, need of reanimation, low Apgar score at the birth (14,15). Likelihood of complications during childbirth was also affected, with 5% risk in women who had not had FGM, 18% risk in women with type 1, 30% in type 2 and 36% in women with type 3 (16). Therapeutic deinfibulation (TD), predominantly carried out in FGM type III, consists in reparatory surgery to restore normal vaginal ostio. Deinfibulation is an anterior incision that opens up the infibulation scar. It therefore re-creates the labia majora and eliminates obstructions (8,17). Therapeutic deinfibulation is a surgery of minor complexity but it requires strong and culturally-oriented support (18). This surgery can partially repair FGM' anatomic effects, but the psychological discomfort remains still powerful. In fact, it is not only a matter of "anatomic reopening": such procedure brings up profound and conflicting implications both social and symbolic (18).

Materials and Methods

A 38-year-old woman, gravida 3, all previous caesarean sections due to FMG, in 2002, 2006 and 2009. The patient came to our attention because she had suffered as a young girl a third type of FGM with a deep groove scar. Cicatrix stretched from the clitoral region exceeding the pubis area and going back, like a scythe, until 4-5 cm at suprapubic region. It caused severe pain and limitations to her sexual and everyday life. The urethral meatus was visible. At bimanual examination we noticed that the clitoral zone was covered by a scar of mutilation and woman had increased sensitivity in that site (Figure 1,2). The rest of the physical examination was unrewarding. Following a multidisciplinary discussion with the appointed gynaecologist-obstetrician, and a psychologist, it has been proposed to the patient the possibility to perform reconstructive surgery in teamwork with plastic surgeons. Afterwards procedure' risks and benefits were listed to the patient, and informed consent was obtained.

The first phase involved psychologist: His aims can be summarised as follows:

To evaluate the overall health of the woman;

To make the patient aware of the type of mutilation she has and the subsequent consequences which would affect her health, after gynaecological visit was made;

To evaluate the efficiency of TD surgery according to specific clinical characteristics of each patient;

To provide information (with graphic support) and increase awareness on the differences between mutilated and non-mutilated female genital apparatus. Specific bespoke information is provided to the patient and the benefits of the surgery are explained;

To listen to and evaluate the reasons for which the patient is considering undergoing such reparative surgery;

To evaluate the consequences of infibulations, paying particular attention to the pain and the sexual life as influenced by the mutilation;

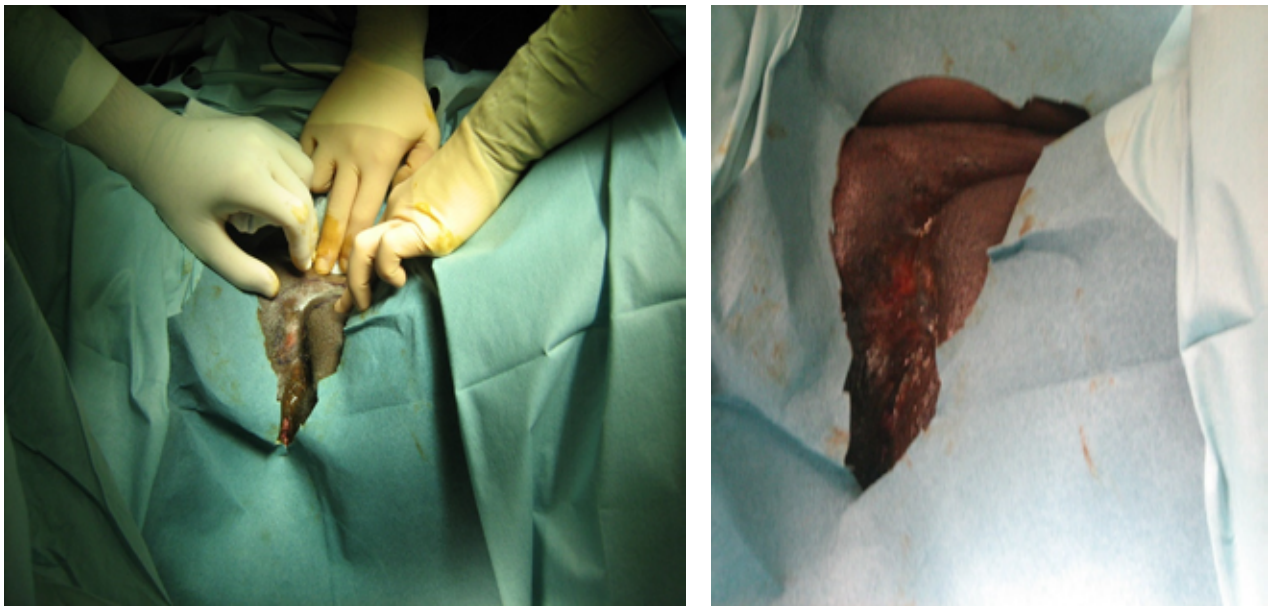

Figure 1-2. FGM type III. Woman's genitalia before reconstructive surgery. Clitoral zone was covered by scar of mutilation.

To clearly and thoroughly describe the surgery: which actions are foreseen, how and when the "reopening" will take place: in this case, the patient and the medical staff will decide upon this matter with the support of graphic tools, how much time is required, who will be attending the surgery, the type of anesthesia, how long the convalescence will last, what the next steps will be. This has the purpose to give a clear picture of the surgery setting in which the patient would find herself if she decided to undertake the intervention. To listen to and evaluate the reasons for which the patient is considering undergoing such reparative surgery; To provide information on the physiological changes following the surgery (e.g. modification in the urinary and menstrual flow, changes in vaginal secretions and all possible alterations during the sexual intercourse. End goal is to allow the woman to get gradually accustomed with the new body image she will have to live with.

This address at giving a clear picture of the surgery setting in which the patient would find herself if she decided to undertake the intervention. She needs to live - in a reparatory way, we may add - the preparation she was denied when infibulation has been performed and that has therefore caused a trauma. Surgical time came after: the target was to re-establish a normal plan at suprapubic skin, performing therapeutic deinfibulation. Subsequently general anesthesia, the patient was placed in gynaecological position. Then, urinary catheter was positioned to highlight the urethra. First surgical step was achieved by plastic surgeons. Prior skin disinfection, collegues proceed with removal of the pubic portion of the scar. Release and mobilization of soft tissue. Accurate hemostasis. Approach to the skin flaps, suture of the different planes and sterile dressing. Besides, gynaecologist' team performed an elective deinfibulation which consisted of splitting the fused labia minora in the midline superiorly with cold blade and electric scalpel, till the remnant of the clitoris was exposed and freed from the tethering sovraureteral fibrous tissue for about 1 cm. The cut edges of the labia minora were sutured together with running sutures of 2-0 Vycril Rapid (Figure 3,4). Then, we performed accurate control of haemostasis and removal of Foley' catheter. In the postoperative period, patient had few episodes of vomiting, treated with ondasentron and preventive antibiotic therapy with amoxicillin-clavulanic acid for 7 days. The patient was discharged home the day after the procedure, and reviewed in the clinic on the eighth postoperative day, two weeks later and after one month. Her wounds were well-healed. At the six month follow-up, she declared to have satisfactory sexual intercourses, if compared to her preoperative physical condition.

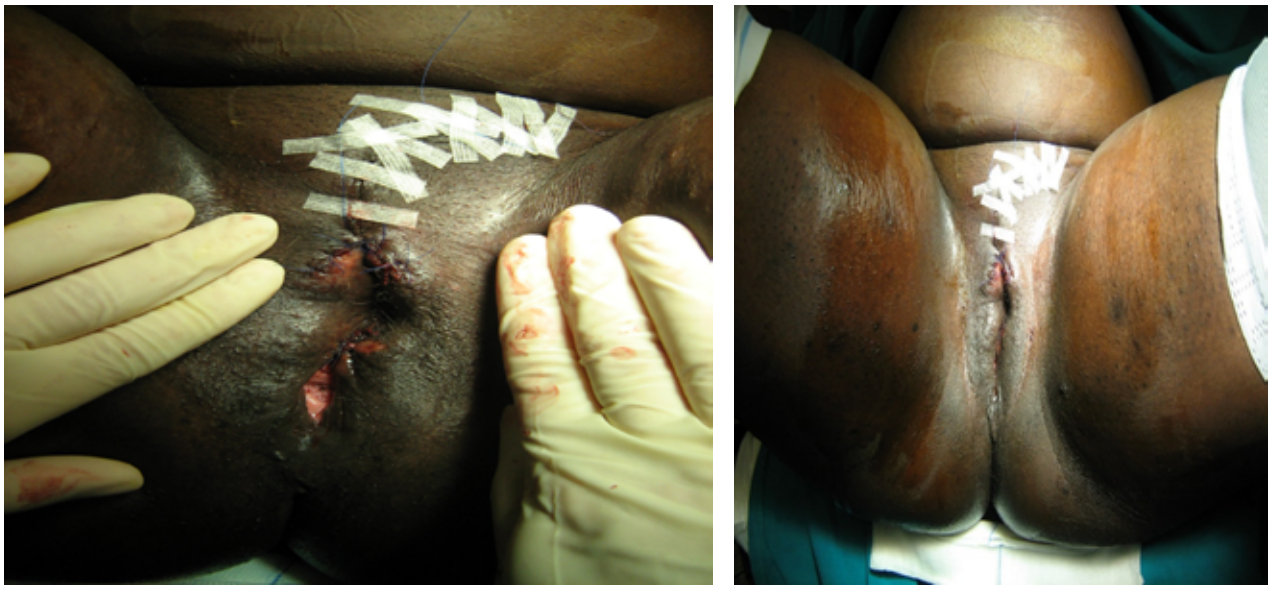

Figure 3- 4. Therapeutic de-infibulation. Fused labia minora were separated and clitoris was exposed. Then cut edges of labia minora were sutured.

Discussion

Deinfibulation can be performed any time in a woman's life (19). In pregnant women, it can be safely performed during the second trimester or at least 4-6 weeks prior to delivery. Performing deinfibulation in the second trimester decreases maternal and foetal risks (20). However, deinfibulation can also be performed intrapartum, but it may not be the right time. Deinfibulation could occur in general and local anaesthesia according to the woman's open choice. Even, some patients under local anaesthesia, have experienced flashbacks of their circumcision (11,21-22). Reconstructive surgery aims to restore normal anatomy, female sexual identity, physical pleasure and reduce pelvic pain or dyspareunia. Based on the type of FGM/C *(- Cutting, as women infibulated themselves say -)*, different types of surgery are required. Clitoral reconstruction and deinfibulation are the most used techniques; the excision of cysts is less popular and used only in cases of keloids or cysts (23). As compared to deinfibulation, clitoral reconstruction is more complicated to realize. Moreover, several different techniques have been pro-posed. However, no official international guidelines are available, and the evidence about the pros and cons of each variant is limited (23).

In their publication, Chang et al. described the same typology of surgery of our patient (24): "releasing the superficial scar tissue around the clitoris and the urethral meatus, which is subsequently utilized to elevate the labia majora. Then, the tissue around the clitoral shaft stump is dissected deeply until the complete release of the residual palpable clitoris. After adequate mobilization, labia majora are rolled medially and sutured to the peri-osteum in a two-layer fashion to avoid adherence between the labia" (24). They report three cases of treated FGMs and all reported signalized sexual function and decreased embarrassment with their partners (24).

In a recent review of literature, authors compared 8 studies: surgical techniques differs in kind of reconstruction of glans and prepuce.

For example, four out of 8 studies used the same surgical technique named "Fold`es technique": after a skin incision over the clitoral shaft stump, the tissue above the stump is sharply dissected with scissors to transect the suspensory ligament gradually. The dissection is performed to allow sufficient downward mobilization of the clitoral shaft stump while preserving the neurovascular bundle in the dorsal region. When an adequate downward mobilization is achieved, two laterals continuous sutures are used to hold the extremity

of the neo-clitoral shaft to the two bulbocavernosus muscles, preventing retraction. Finally, the vestibular skin is closed through the closure of the subcutaneous connective tissue on both sides (23). Sexual function is the only outcome investigated by all studies, which consistently suggest that clitoral reconstruction appear effective to improve clitoral pleasure/orgasm (23,25).

Interestingly, surgical advances have led to application of low genital reconstructive techniques for other purposes, especially for cancers. Cases noteworthy are a new recent surgical technique based on vaginal flap to perform neomeatus reconstruction after distal urethral resection in radical surgery for vulvar cancer (26) and a neovagina reconstruction to treat vaginal stenosis after radiotherapy for cervical cancers (27). This latter chance could be an option when the vaginal stenosis is severe (27). Different techniques have been developed and proposed for neovagina reconstruction: for example, in case of vaginal congenital atresia or in male-to-female transition (27).

Therefore, it would be misleading to deal with such intervention only in terms of surgery activity. In fact, it requires both specific medical preparation and sensible culturally-oriented assistance. In these delicate cases, support would take into account personal woman's experience, lasting from pre-surgery to the time after (28). Preparatory phase consists of several individual meetings which are tailored to patient' specific needs. The first consultancy meeting is scheduled according to a multidisciplinary approach, involving the appointed gynaecologist-obstetrician together with a psychologist and a cultural mediator. A psychological workshop, focused on the unique experience of the patient, aims to build a solid and trustworthy relationship with the woman, to detect any possible uneasiness connected to the infibulation or to the migratory process and the related consequences (lack of family affection, integration, cultural and language difficulties, change of habits, economic problems and difficult access to health services) (29). Such elements contribute altogether to determine woman's vulnerability: so, it must be carefully analyzed woman's conviction to reconstructive surgery. Moreover, it is crucial the evaluation of family/community-related conflicts, facing women who decide to undertake surgery. Furthermore, expectations in the outcome are key in the whole process and it is indispensable to estimate them and make women aware of the actual results post intervention.

As for the surgical phase, instead, this differs for each case and it cannot be pre-settled for: in fact, the woman is making an active choice for her personal wellbeing and she has to be able to give her consent freely. Undergoing surgery and facing a "reopening" means that woman is really ready to deal with pain inextricably linked to the past experience, opposing to her community and its traditions (30). De-infibulation' repercussions then, will extend to every girl of her family. So, most experts recommend screening women from countries where the practice is prevalent to anticipate possible related issues, to prepare for what might be encountered during pelvic examinations, and assess the risk of FGM in female offspring (31). In the light of the above, it stands to reason to point out the importance of setting surgery to patient's needs. Some women face the gynaecological consultancy already aware of their own situation, having previously made the decision of undergoing reconstructive surgery. Other cases, instead, require more time to achieve emotional balance prior to choice surgical intervention. Sexuality-related aspects of mutilated women (in particular of infibulated women) are mainly evaluated in post-operative, in terms of vulvar pain or dyspareunia, changes in sexual activity or orgasm, and also the impact on self-image (23). Scientific results are however ambivalent: further studies are required to compare surgical techniques with their effectiveness in terms of vulvar pain and/or dyspareunia, sexual activity and/or orgasm, and self-image improvement (23). It is clear therefore the difficulty of carrying out rigorous scientific studies on sexuality and FGM (32). The most peculiar and controversial aspects attracting researchers are related to the female orgasmic functionality. For a long time, pleasure was thought drastically reduced for the absence of clitoris and labia minora (33). However, most of the studies do not confirm this assumption (34-35). On the one hand, the physiological answer was thought to be maintained in the deepest parts not compromised by mutilation. Moreover, a major sensibility was thought to have developed in mutilated women as a compensation of losing the erogenous function of the main areas (33,36-37). However,

FGM-related sexual consequences are very difficult to communicate and so to measure, especially for women who have grown up with an entrenched taboo of their sexuality and of female sexuality in general (38). Therefore, given all the above mentioned circumstances, it is of the upmost importance to discern the part of pain strictly connected to the mutilation and the part which, instead, derives from a psychological factor. In fact, psychological pain is likely to persist even after reconstructive surgery. Last but not least, post-surgery expectations are to be talked over during the preparatory stage. It is likely to deal with expectations that tend to be rather high and that need to be necessarily reconsidered. Frequent statements include "*I look forward to undergoing the surgery because everything will change afterwards: I will not suffer anymore, I can finally enjoy a painless sexuality and whatever happened in the past will be forgotten*" (39,40). These clearly represent expectations that have to be reduced in order to avoid unbearable disappointments. As in the preparatory stage, the same importance has to be given to the moment of the intervention itself and to the post-surgery support. The patient has to be enabled to assimilate the result and to adapt to her new body as well as to the new sensorial perceptions with the ultimate aim of integrating a new image of herself (23).

Conclusions

Despite FGMs/C is are well recognized as one of the most prevalent forms of violence against women and girls, in many African states FGMs/C are yet a deeply entrenched cultural practice (41). This, beyond any cultural and traditional backgrounds motivating it, justifies why professionals of care have to be trained about management of these delicate cases. FGM represents a serious violation of human rights, particularly the right to health, undermining irreversibly women' physical and mental state. Moreover, frequently, migrant women with FGMs are carriers of complex problems not exclusively of medical, obstetric and gynecological relevance, but also social, psychological, psychosexual. It is then recommended a multidisciplinary team approach to enable a more comprehensive and satisfactory response to the various discomforts expressed by women. This will be done sharing competences of different skills: from obstetrician-gynaecologists, including uro gynaecologists, to sexologists, physical therapists and mental health professionals. It must be considered pain strictly connected to the mutilation and the part which, instead, derives from a psychological factor. To this regard, two patients treated in our infrastructure, during the project, provide a clear example of such dissimilarity. In the first case, a woman from Burkina Faso asked for consultancy in view of possible TD surgery. During the interview, the woman reported a constant, unbearable pain which significantly obstacles her everyday life. However, during the gynaecological visit, a "minor" mutilation was observed (FGM I) instead of an infibulation (FGM III). The woman obstinately demanded TD surgery regardless of the fact that she was clearly explained that such surgery was not feasible - and harmful, instead - in her condition, given the different mutilation she was bearing. The alleged physical pain the woman has been suffering results disproportionate to the actual physical damage. In reality, the woman is profoundly affected by psychological pain which needs to be appropriately interpreted, paid attention to and accepted. In this case, therefore, the psychological support was essential. On the other hand, the second case involved a woman from Sudan bearing a very tight infibulation which caused severe pain and limitations to her sexual and everyday life. Nevertheless, physical and emotional pain did not lead the woman to accept TD surgery straightaway to the extent that the intervention was postponed twice. She was in a psychological condition of strong ambivalence towards the intervention, on the one hand desiring a change for her own health, on the other hand, however, facing intense fear. In this ambivalence, there's the importance to multidisciplinary approach, and its variable duration: we have to cut to woman' size her therapeutic plan.

Here follows what a Somali girl reported when she approached our structure: *"I have always hoped for the possibility to undergo a reopening and as soon as I was told that it would have been possible in this infrastructure, it was like seeing a light in the dark*". This words give the strength to all sanitaries to approach these women: in this way we can hope this unuseful practice, perpretated, will be one day eradicate.

We think the greatest desire of mutilated women – conscious or unconscious they are - is to be relieved of the pain they have had endured throughout their lives: from here, the need to talk about this underestimate social plague with aforementioned repercussions. They want to be able to enjoy their sexuality without any pain or anxiety and, mostly, to detach their body from the constant feeling of pain and obstacle to their happiness.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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