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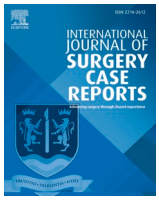

Case report

Social issues and medico-surgical complications of improving the gluteal silhouette in African women: Case report and review of the literature

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ABSTRACT

Introduction: Voluntary gluteal augmentation is an ideal defined by society, region and period. The low income status of African women does not allow access to recommended medical and surgical methods for this. They use poorly understood and cheaper methods. These cheaper procedures present with serious complications that could be life-threatening.

Case presentation: We present the case of a 35-year-old woman who was received in a state of septic shock after injection of an unknown substance to improve her gluteal curve. This injection resulted to tissue necrosis and healing was impaired. It required repair using a fascio-cutaneous tensor fasciae latae flap given the aesthetic role the gluteal region accounts for.

Discussion: Known gluteal augmentation techniques used in Africa are either natural or artificial. These methods have not been the subject of scientific study. The complications are not known before hand; those encountered in our presentation are severe soft tissue infection with tissue necrosis, neurapraxia and impaired healing. Soft tissue defects caused by necrosis may require the use of a flap, choice of which would give the most satisfactory functional and aesthetic results.

Conclusion: The complications of these methods cannot be anticipated. Management of these complications is multidisciplinary and must be done in a hospital setting.

1. Introduction

1.1. Goal and objectives of improving the female curves

Enhancement of the figure encompasses all practices that aim to transform the body's appearance [1]. In sub-Saharan Africa, the main modifications of the physical appearance are skin lightening, modification of certain parts of the body, tattooing and piercing [2]. They target an ideal appearance defined by society, region and certain periods. In Africa, the body parts most subjected to these modifications are the breasts and buttocks because women with broader curves trigger a better sexual appeal, better self-esteem and better marital status [3]. There are several forms of gluteal curves. Nowadays, the cultural assortment, migration of populations defines the ideal shape of buttocks as a globally round, high, curved and firm [4].

1.2. Causes and methods used to modify in the gluteal silhouette

The desire to improve of the gluteal silhouette is linked to low self-esteem [2,5]; other authors think it is due to environmental factors such as the entourage, fashion phenomena relayed by social media, new clothing styles, the power of seduction, or attaining a certain high social level which prompts the desire to modify the body outline [6,7]. There are several methods used to modifying the silhouette: non-surgical techniques include: physical exercise, creams and injections while surgical techniques include: use of prostheses and autologous fat grafting. The costs of endorsed treatments are very often very costly to be afforded by African women. They opt for the use of products of doubtful origin whose administration are either local (massages with oils, creams), intra rectal (suppository), by intramuscular or intravenous injection at much lower costs [3]; Herbal excipients administered locally satisfactory have not shown satisfactory results. Women looking for

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more remarkable and rapid results use injectable products of an unknown or doubtful nature despite the possible known risks [3].

These complications are sometimes serious and require an intensive care stay. This case report is the presentation of a serious complication that occurred after an attempt to increase buttocks size by injecting an unknown product. It is reported in line with the SCARE criteria 2023 (SCARE) [8].

2. Presentation of the case

It is a 35-year-old woman with an unremarkable past medical history. She had an injection of an unidentified substance in the buttocks in an out-of-hospital setting and under doubtful aseptic conditions. She was admitted 10 days later to the emergency room of the Yaoundé central hospital with intense pain and purulent discharge from the left buttock associated with limping. The clinical examination on entry showed; an ill looking patient, with a fever of 39 °C, BP 138/89 mmHg, pulse: 100 ppm. Local examination was marked by swelling of both buttocks wide zones of skin necrosis on the lower-internal quadrants, with pus discharge. The rest of the exam was normal. The clinical findings drifted towards a soft tissue infection: necrotizing soft tissue bacterial infection. An ultrasound showed edema of the soft tissues under the skin and an intramuscular cloudy collection. Her biological work up showed an elevated White cell count on the Full blood count, predominantly Neutrophils and elevated inflammatory markers. With this clinical picture, an indication for surgery was made. The preoperative para clinical assessment carried out was normal.

Her treatment was in three phases; an initial pre-operative resuscitation by filling with crystalloids, administration of injectable analgesics and associating two broad-spectrum intravenous antibiotic for prophylaxis (ceftriaxone 2 g/24 h, metronidazole 500 mg/8 h). Debridement and draining of the purulent collections was carried out 12 h after his admission under general anesthesia. The operative findings noted were necrosis of the subcutaneous skin and fatty tissue with underlying purulent intra muscular collection of approximately 160 cc in each buttock. A sample was collected for cyto-bacteriologic analysis. The wound was left open for healing under secondary intention. Postoperative care consisted of appropriate analgesics, prevention of thromboembolic disease, antibiotics with injectable Ofloxacin, adapted to the result of the bacteriological analysis, isolating the germ *Viridans streptococci* sensitive to Ofloxacin. Daily wound care was done with moist wound dressings.

The evolution 4 weeks later was marked by a satisfactory wound healing with healthy granulation tissue. On the left wound, scaring was done causing a retraction and inversion of the wound edges prevention optimal healing (Fig. 1). Surgical repair with tensor fascia lata fasciocutaneous flap was indicated and performed under general anesthesia. The surgical procedure was as follows;

- Excision of the retracted edges.
- An evaluation of the defect (11 cm * 5 cm) and drawing of the flap. The pivot point was detected by clinical landmark; 8 cm from an imaginary line passing through the iliac crest to the lateral condyle, representing the location of the major vascular perforator of the flap. This perforator comes from the lateral circumflex femoral artery. An incision following the outline of the drawings and removal of the fasciocutaneous flap of the tensor fascia lata attached to a proximal pedicle,
- Adequate transposition, rotation and fixation on the recipient site with deep resorbable suture thread and non-resorbable suture thread on the skin to be removed after 10/15 days.
- Immediate closure of the donor site without tension (Fig. 2).

Postoperative care consisted of appropriate analgesics and prophylactic antibiotic administration. The postoperative course was uneventful and the patient was discharged on the 5th postoperative day. Healing of the donor and recipient sites was complete after the 13th postoperative day.

3. Discussion

3.1. Causes, risk factors and techniques used to modify the gluteal silhouette

Gluteal enhancement increases female sexual appeal. Increase in self-esteem and the desire to be accepted by society with a model female outlook are the main factors causing women seek modification of their gluteal curves [2,5–7].

Several methods are used. Injections with hyaluronic acid are the medical technique that has demonstrated satisfactory aesthetic outcomes. Surgical methods used are grouped into two; using implants and without implants (autologous fat grafting) [9,10]. The cost of cosmetic surgery varies and is between 2500 and 9000 US dollars [11]. These rates are very high for patients from especially from sub Saharan Africa where the minimum wage does not exceed 100 US dollars [12]; These high costs represent the main risk factor for the use of low-cost sub optimal techniques. Among these techniques are the use of oils and creams for local application made from plant excipients (Fenugreek). They are known as natural methods. Use of injections, capsules or suppositories is all artificial methods [3]. The complications of these methods are not well known and are usually not detected early because the nature of the products is unknown to the patient and or not disclosed to the physician. The injection of cooking broths is a common practice

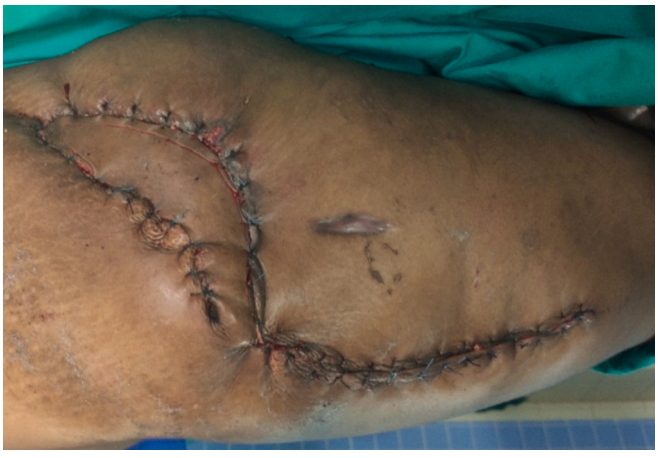

Fig. 1. Final appearance after reconstruction with a fasciocutaneous fascia lata flap.

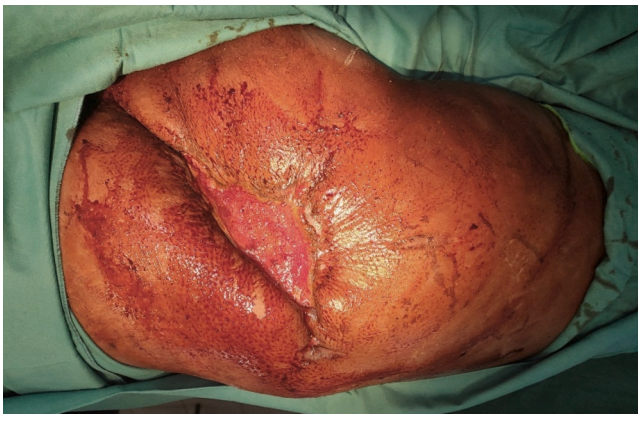

Fig. 2. Wound of the left buttock: showing a depression of the wound bed, inversion and retraction of the skin edges.

[3].

3.2. Complications

Our patient presented with severe soft tissue infection, neurapraxia, and wound healing problems.

Infection is a frequent complication which arises during different buttock remodeling methods. It is usually due to improper asepsis before or during the procedure. In the case of our patient, it was necrotizing soft tissue infection with a deep pyomyositis. The risk factors were the aseptic conditions of injection, the doubtful nature of the injected product which was able to trigger a strong inflammatory reaction and necrosis due to the foreign body.

Neurapraxia is a mild form of peripheral nerve injury commonly induced by focal demyelination or ischemia. In neurapraxia there is temporary interruption of the conduction of nerve impulses, without a bridge in continuity of the axon. It results in pain, dysesthesia and trouble walking; an injection that does not respect the landmarks of the buttock in order to avoid the sciatic nerve can lead to injury and complications. This could explain the pain and gait disturbances described in our case, although the infection could also be the cause. This pain is temporary and can be relieved by the administration of analgesics [9].

Surgical debridement in our patient resulted in a large wound. It was left to heal by secondary intention, as recommended by the Loss of Substance Management Scale [13]. Healthy granulation tissue was obtained after 3 weeks. This delay could have been shortened by the use of negative pressure therapy [14] which was not available in our setting.

Healing can be impaired and progress to form pathologic scars [15]. Our patient presented with a defective scar due to a poor evolution of wound healing. Repair with a flap was indicated for reconstructive and aesthetic reasons, taking into account the gluteal outline. Fasciocutaneous flaps are best indicated for repairing defects [16]. They have several advantages: simple and rapid harvesting; thinness of the flap, preservation of major arterial axes, low morbidity of the donor site, possibility of primary closure of the donor site [13,16]. We opted to use a fasciocutaneous flap of tensor fascia lata giving its advantages and proximity to the recipient site. No drain was placed. The donor site was closed immediately tension-free with interrupted stitches. No dog ears were noted during the rotation and after closure. Both wounds healed properly after 13 days. The patient expressed satisfaction with the final outcome of the scar.

4. Conclusion

Non-medical natural or artificial methods for buttock augmentation are widely used in sub Saharan Africa. The complications of these methods are poorly known and difficult to anticipate because the nature of these products are not known to the patient and or not disclosed to the physician. These complications must be properly managed because they can be life-threatening. We recommend that a study of these products be carried out in order to know their components and their effects.

Consent

Written informed consent was obtained from the patient for publication and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical approval

Any identifying material has been removed, including the patient's name, date of entry, face or any distinctive features on the pictures taken.

Ethics approval is not required for case reports or case series deemed not to constitute research in our institution (Yaoundé Central Hospital).

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Author contribution

Joseph Idriss Djoko, Colman Tankou, contributed in surgical therapy for this patient, design of the study and writing of the manuscript.

Loic Fonkoué, Kelly Chuisseu contributed in critical reading.

Joseph Idriss Djoko collected the pictures, and obtained the patient's consent.

All authors have read and approved the final version of the manuscript.

Guarantor

Joseph Idriss Djoko as corresponding author accepts the full responsibility for this research.

Conflict of interest statement

The authors do not declare any conflicts of interest.

Availability of data and material

'Not applicable' in this section.

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