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Pedicle Based Modified Double Opposing Z-Plasty For Perineum Post-Burn Contracture.

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ABSTRACT

A case of post-burn perineum contracture and its reconstruction by using pedicle based modified double opposing z-plasty. Commonly, Z-plasty (single or multiple) and double opposing Z-plasty are helpful for release of contracture band but some modification based on pedicle achieved good aesthetic and functional result in the perineum contracture. In this article,we describe a novel pedicle based fasciocutaneous flaps in a new modified double opposing z-plasty manner and also describe the anatomical basis of flap.

Keywords: Modified double opposing z-plasty, Perineum post- burn contracture, Perineum, pedicle based modified double opposing z-plasty.

INTRODUCTION

Contracture secondary to burn especially in perineum region is a rare sequel. Such type of burn causes severe functional, aesthetic and psychological harm to the patient.[1] Patient usually presents with difficulty in urination, defecation, sexual intercourse, walking, sitting and squatting. Many different surgical techniques are used from skin graft to micro-vascular flaps. It is advisable to use local flaps, wherever possible, for better result and least chances of recurrence. In the presented case, local flap's reposition on pedicle based is modified in a simple way which has been discussed.

CASE REPORT

Twenty years old female patient, presented as out-patient with history of scald burn in perineum area before 12 years and presently having complaint of perineum contracture. Patient did not have any significant medical history and presented with complain of difficulty in urination, defecation and dissatisfied with her appearance. On examination, she had a difficulty in abducting and extending of her hips., the introitus covered inferiorly, scar tissues present in lower abdominal and both thighs [Figure 1].

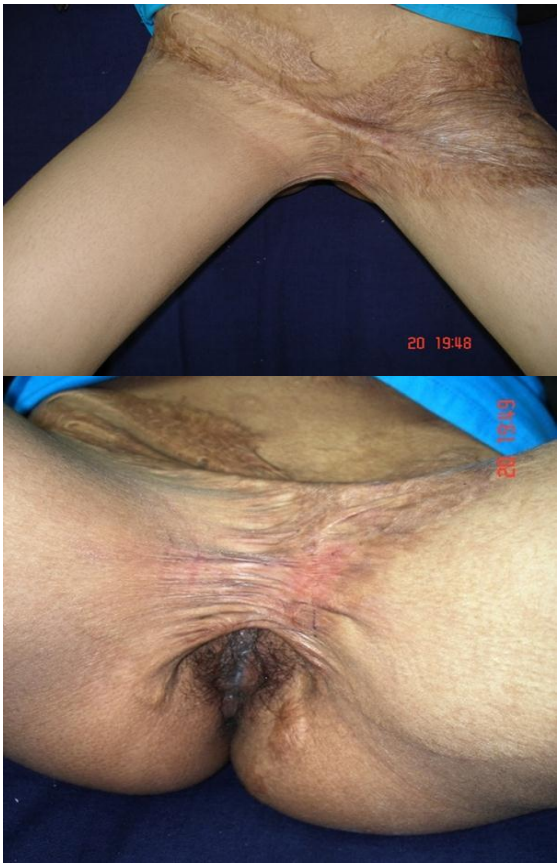

Figure 1: Preoperative.

Modified double opposing Z-plasty was planned,after proper color doppler study of all pedicles and marking was done according to planning. Complete release of perineum contracture achieved [Figure 2], all flaps were elevated on

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pedicle based and checked for good vascularity and relaxity [Figure 3, 6, 8, 9, 10]. All flaps are sutured according to planning but because of tissue loss on left side, patchy raw area need skin graft which was taken from back of left thigh [Figure 4].

Post-operative period was uneventful and wound healed well within fifteen days.

After a six month of follow-up, patients satisfied with the result and aesthetic appearance, and patient build some confidence also [Figure 5].

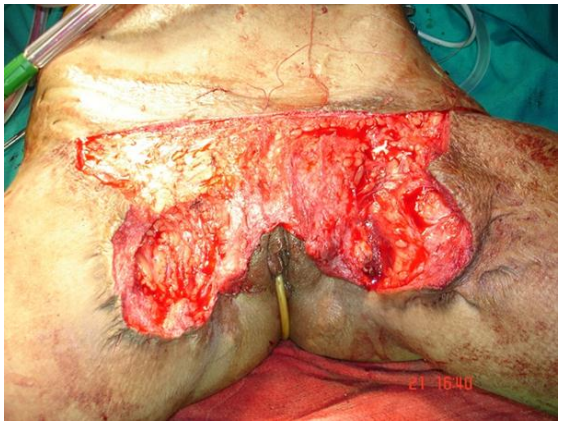

Figure 2: After complete release.

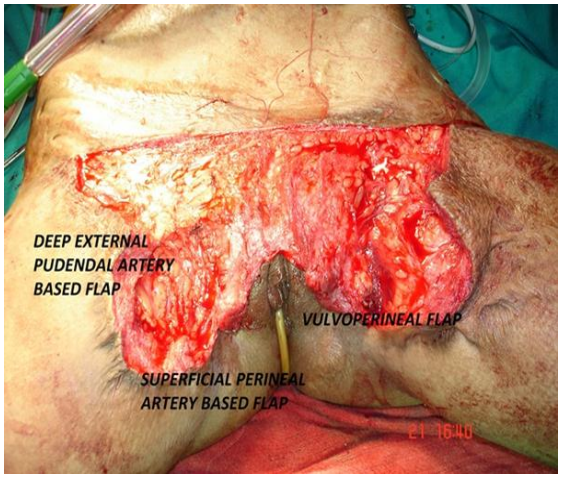

Figure 3: After complete release of contracture with flap indentity.

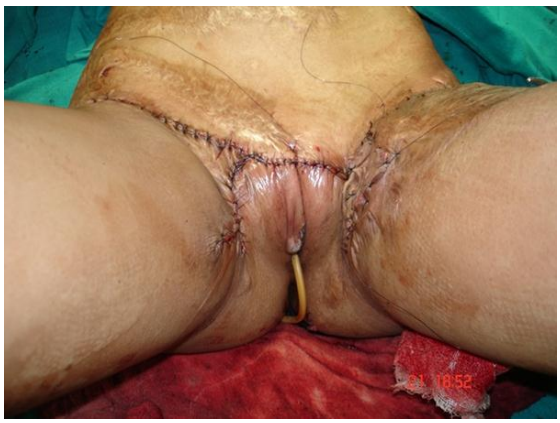

Figure 4: After repair.

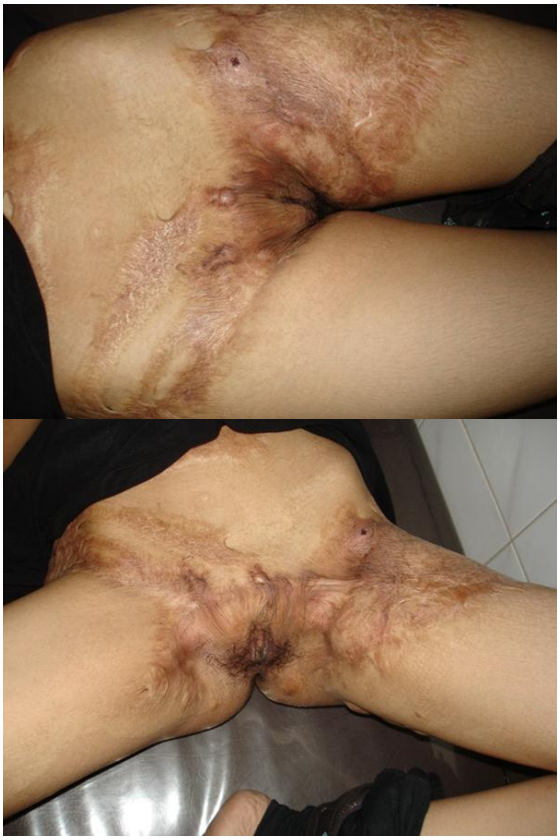

Figure 5: After 6 months.

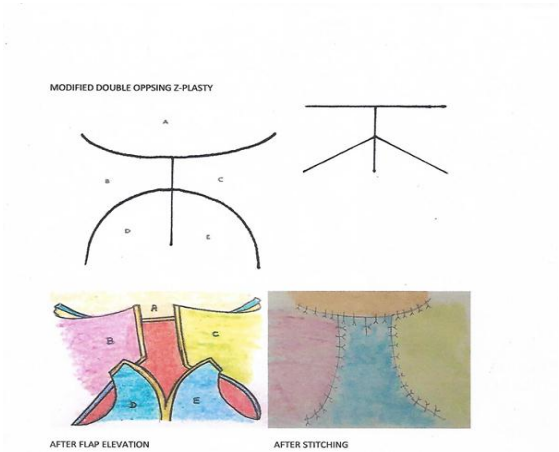

Figure 6: Final Flap.

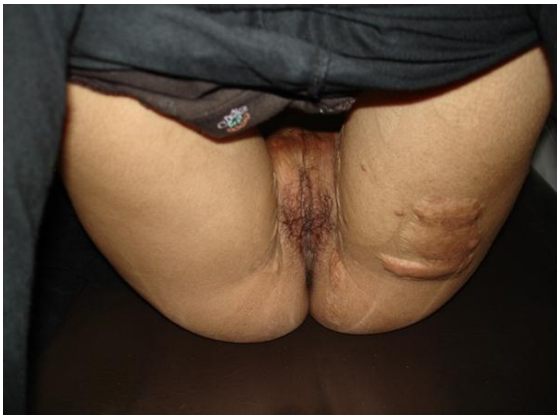

Figure 7: Appearance after 6 months with HTS.

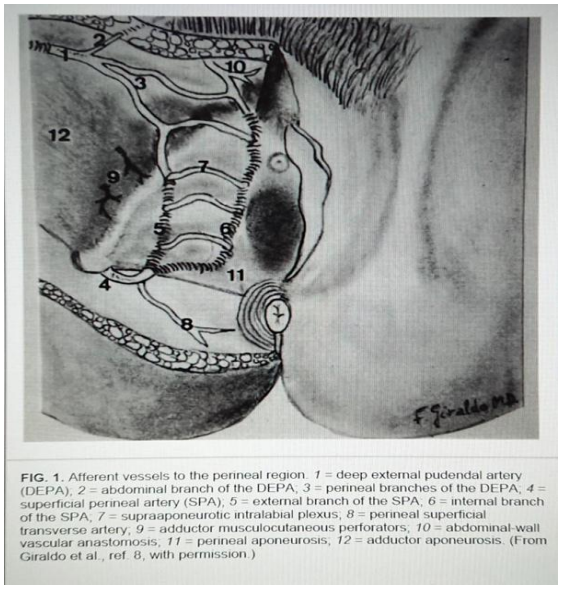

FIG. 1. Afferent vessels to the perineal region. *1* = deep external pudendal artery (DEPA); *2* = abdominal branch of the DEPA; *3* = perineal branches of the DEPA; *4* = superficial perineal artery (SPA); *5* = external branch of the SPA; *6* = internal branch of the SPA; *7* = supraaponeurotic intralabial plexus; *8* = perineal superficial transverse artery; *9* = adductor musculocutaneous perforators; *10* = abdominal-wall vascular anastomosis; *11* = perineal aponeurosis; *12* = adductor aponeurosis. (From Giraldo et al., ref. 8, with permission.)

Figure 8: Text 1.

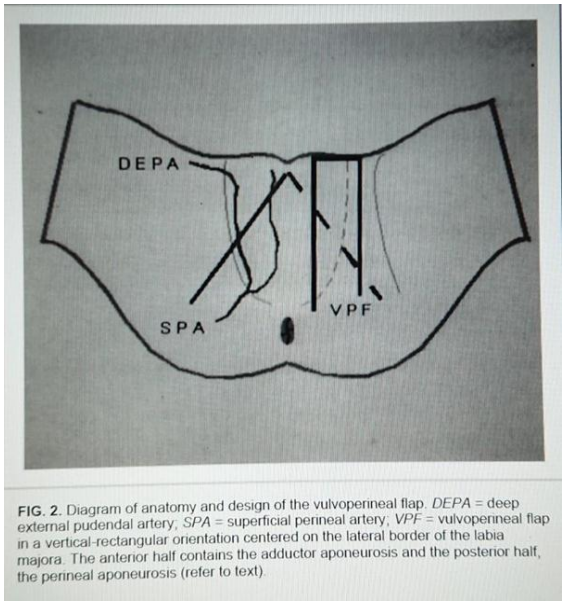

FIG. 2. Diagram of anatomy and design of the vulvoperineal flap. *DEPA* = deep external pudendal artery; *SPA* = superficial perineal artery; *VPF* = vulvoperineal flap in a vertical-rectangular orientation centered on the lateral border of the labia majora. The anterior half contains the adductor aponeurosis and the posterior half, the perineal aponeurosis (refer to text).

Figure 9: Text 2.

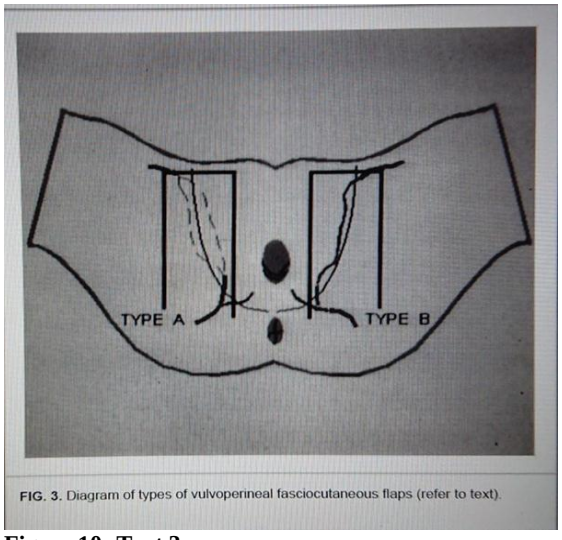

FIG. 3. Diagram of types of vulvoperineal fasciocutaneous flaps (refer to text).

Figure 10: Text 3.

DISCUSSION & CONCLUSION

The perineum is a very important site in the body anatomically and functionally. The perineum contracture is usually diagnosed late owing to the patient's negligence, ignorance and shyness. That is why delay can be extending up to puberty and sometimes even later in females.

This patient was having a history of scald burn in childhood. The contracture band in groin and across symphysis pubis binds the thighs together, leading to functional problem like walking, sitting, urination, defecation, squatting and sexual intercourse.

Technically, it is not difficult to perform, all flaps are pedicle base flaps in form of bilateral vulvoperineal flap[2], bilateral superficial perineal artery based flaps[3] and deep pudendal artery based flaps[4]. These all flaps were using as an individual units for reconstruction [Figure 8, 9, 10]. Advantages of these flaps are easy to raised, high degree of rotation available so donor sites can be closed primarily and good aesthetic values because of same colour, texture and scarring. Flaps were chosen because they least require splintage post-operatively in compare of skin grafting.

Post-operatively, patient must be wearing compression garment and sometimes splintage[8,9], but in this case patient developed a hypertrophy scar over graft donor site, instead of prescribing of compression garments,might be because of less time to wearing of compressor garments which was recovered by intralesional triamsilone injections in 6 sittings [Figure 7].

So, all pedicle based local flaps for reconstruction of post-burn contracture of perineum are the better option than any other method of reconstruction in form functional and aesthetic appearance.

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