

CASE REPORT

Anterolateral Thigh Flap for Defect in Groin Area Following Resection of a Residual Disease of Vulvar Cancer: A Case Report

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ABSTRACT

Introduction: Surgery for vulvar malignancies involves large defect, complicating wound healing and postoperative morbidity. However, it remains the mainstay of vulvar malignancy treatment. The prognosis for vulvar cancer is generally good with appropriate management. A multidisciplinary approach is desirable.

Case report: A 69 years female presented with complaints of swelling in genital region and occasional bleeding from the mass for 9 months. With World Health Organization (WHO) performance score of 3, stage IIIC squamous cell was diagnosed. Palliative radiotherapy was given, 6 weeks later the primary lesion disappeared but the inguinofemoral mass size remained. With the improved general condition, excision was done (left-sided inguinofemoral lymphadenectomy) with flap grafting (Anterolateral thigh flap). Postoperative recovery was good. An additional 30GyEBRT was well tolerated.

Conclusion: Advanced vulvar cancer surgery carries significant morbidity. With low incidence, the level of evidence for treatment of vulvar cancer is low too. Reconstructive surgeries have shown reduction in morbidity and improvement in quality of life; but few studies are available evaluating the impact of such surgeries. ALT flap is a versatile perforator flap and hence, is useful in large vulvoperineal defect and large groin defect.

Keywords: Anterolateral thigh flap, Inguinofemoral lymphadenectomy, Reconstructive surgery, Vulvar cancer.

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INTRODUCTION

Vulvar cancer accounts for 1–3% of female genital tract malignancies. It is predominantly a disease of

older women. The delayed diagnosis has been typical despite it being an external organ. The majority of patients undergo radical vulvectomy and inguinofemoral lymphadenectomy. The role of radiation in vulvar cancer treatment is increasing. However, the indications for radiation therapy are still evolving. The prognosis for vulvar cancer is generally good with appropriate management. A multidisciplinary approach is desirable. While surgery is well tolerated, 1% postoperative mortality rate can be anticipated. Radical en bloc vulvar cancer dissection was first reported by Taussig and Way^{1,2} with a 5-year survival rate of 60–70%. However, such surgery carried high postoperative morbidity. With advancement in surgical procedures, there has been a shift towards adopting a more conservative surgery associated with lesser postoperative morbidity without compromising survival.^{3,4}

Reconstructive surgery has made it easier to repair the large defect and reduce the morbidity of such radical surgery used in advance vulvar cancer. An area may be left open to granulate or full thickness skin flaps used for covering an area of the defect. An extensive area of defect may need grafts to cover a large area of the defect, e.g., Gracilis myocutaneous or tensor fascia lata myocutaneous graft. The primary treatment of vulvar malignancy is surgery. But radical excision involves a large area of the defect, which not only delays healing but also causes an increase in intraoperative and postoperative morbidity. Reconstructive surgery helps resolve the difficulty in tissue repair and healing; hence, it should be considered during radical vulvar surgery.

CASE REPORT

A 69 years female, para 2, menopausal presented with complaints of swelling in the genital region and occasional bleeding from the mass for 9 months. No significant past medical, personal history noted. The WHO performance score was 3. Biopsy report read squamous cell carcinoma. Computed tomography (CT) scan reported 17th March 2017 heterogeneous enhancing vulvar lesion (58 × 55 mm) infiltrating overlying skin and subcutaneous tissue. There is a large heterogeneously enhancing lymphonodal mass in the left side inguinal region (105 × 75 mm) contiguous with the vulvar lesion. There is intimate contact with a

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neurovascular bundle with encasement of the circumflex vessel. Lymphadenopathy is seen in left hypogastric location (Fig. 1).

Considering her general condition, palliative radiotherapy was considered. She received 8 Gy to local site delivered with Cobalt 60 γ rays on 18/03/17. Six weeks later the primary vulval lesion disappeared but the inguinofemoral mass remained the almost same size, so she received same dose radiation on 3rd May 2017. Six weeks later, the groin lesion size remained the same, and with the improved general condition, the decision for excision was taken (Fig. 2).

Due to the anticipation of a large area of defect following resection, the possibility of the graft was considered. She underwent left-sided salvage surgery (removal of an inguinofemoral mass) with flap grafting. Anterolateral thigh flap was harvested and used (Figs 3 to 5). Post-operative recovery was good.

Holoprosencephaly (HPE) report read metastatic nonkeratinizing squamous cell carcinoma with the extranodal spread. The overlying skin is not involved, and cut margins are free.

The case was taken-up in tumor board for discussion, and an additional 30 Gy EBRT was decided on and started. The last follow-up at 6 months was uneventful with patient able to carry her daily activities without problems.

DISCUSSION

Surgery remains the mainstay of vulvar malignancies treatment.

The structures most frequently involved by vulvar cancer ablative surgery are vulva, perineum, mons pubis, groins, vagina, urethra and more rarely rectum, bladder, and lower abdominal wall.⁵ Relapse in vulvar malignancies may reach 65%,⁶ with local recurrence more common in patients with larger tumors. However, it can be treated successfully by excision or irradiation. Multiple surgeries and radical excision carry the inherent problem of a large area of the defect, delay in wound healing and increase in postoperative morbidity.

Reconstructive surgery in vulvar cancer treatment with use of flaps is on the rise. The primary goals of

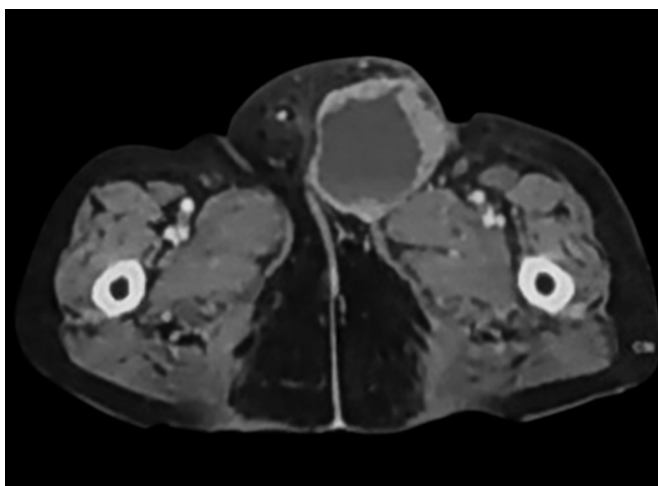


Fig. 1: Pre-radiation therapy scan of the inguinofemoral area

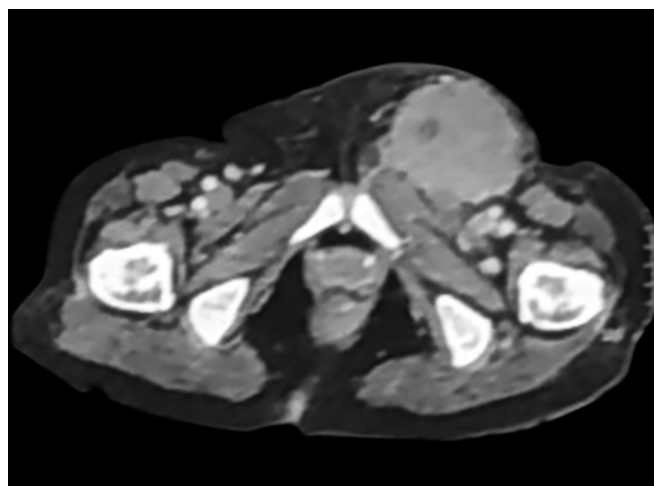


Fig. 2: Post-radiation therapy scan of the inguinofemoral area

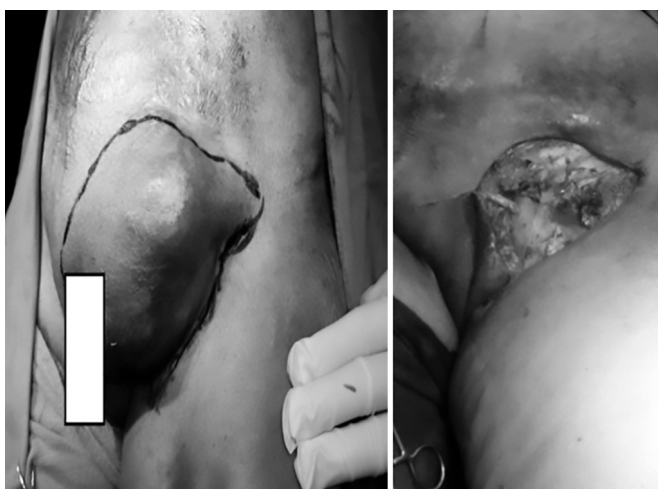


Fig. 3: Left-sided inguinofemoral lymphadenopathy contiguous with the left vulva. A large area of the defect after resection



Fig. 4: ALT flap mapped out and then harvested; the flap is then mobilized to the area of a defect under the rectus femoris and Sartorius' muscles

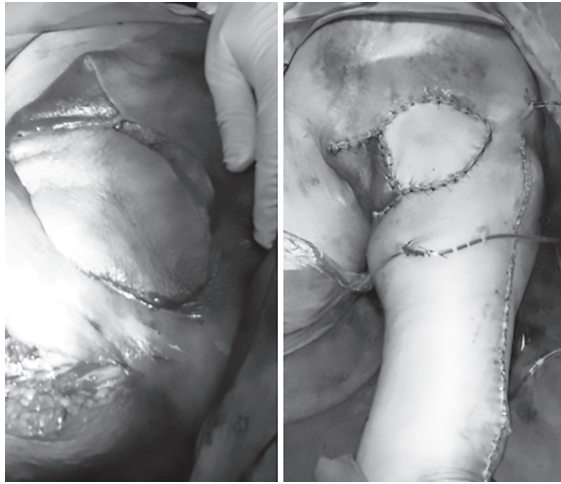


Fig. 5: ALT flap placed over the defect in the inguino-femoral area. The incision over the thigh repaired by primary closure

such surgery include tension-free wound closure with good quality tissues, maintaining introital opening without deviation, restoration of the anovaginal partition and simultaneous closure of associated defects, such as mons pubis or inguinal defects if necessary. So, reconstructive surgeries following radical vulvar surgery with huge defect help reduce morbidity and improve patient's quality of life (QoL). The treatment of gynecological malignancies has witnessed increasing use of myocutaneous/muscle flaps.^{7,8}

Alanine aminotransferase (ALT) flap is probably one of the most useful and versatile perforator flaps for vulvoperineal reconstruction; it can reach mons pubis, vulva, perineum, lower abdominal wall and groin area with strong axial vascularisation that allows for thinning and splitting the flap, avoiding sometimes contralateral flaps. Since Song et al. description of ALT flap in 1984, many soft tissue reconstructions such as those in head and neck region⁹ have used ALT flap successfully. Reports of use of ALT flaps in gynecological malignancies, however, are relatively few.

Surgical treatment for advanced and locally recurrent vulvar cancer provides acceptable survival results. Hence it is still the most common treatment for vulvar malignancies.¹⁰ Survival rates of 21–53% in patients with vulvar carcinoma and positive inguinal lymph nodes have been reported in some studies.^{11,12} These studies showed good pre-operative evaluation, and postoperative management in patients with advanced or recurrent tumors benefit from radical excision and vulvar reconstruction. The 5-year survival rate of 36 patients with advanced and recurrent tumors reached 53.8%.

CONCLUSION

The level of evidence for different treatment modalities is poor as the incidence of the disease is low, and an advanced vulvar cancer surgery carries significant morbidity. Reconstructive surgeries help in not only reducing morbidity but carry a significant impact on quality of life. Though an increase in the use of flaps for radical vulvar cancer surgeries has been noted, there are few studies evaluating the outcome of such surgeries. ALT flap is a versatile perforator flap and hence, is useful in the large vulvoperineal defect and large groin defect.

REFERENCES

1. Taussig F. Cancer of the Vulva: An analysis of 155 cases: *Am J Obstet Gynecol.* 1940;40:764-770.
2. Way S. Carcinoma of the vulva. *Am J Obstet Gynecol.* 1960; 79:692-697.
3. Rodriguez M, Sevin BU, Averette HE, Angioli R, Janicek M, Method M. Conservative trends in the surgical management of vulvar cancer: a University of Miami patient care evaluation study. *International Journal of Gynecological Cancer.* 1997 Mar;7(2):151-157.
4. Magrina JF, Gonzalez-Bosquet J, Weaver AL, Gaffey TA, Webb MJ, Podratz KC. Primary squamous cell cancer of the vulva: radical versus modified radical vulvar surgery. *Gynecologic Oncology.* 1998 Oct 1;71(1):116-121.
5. Gentileschi S, Servillo M, Garganese G, Simona F, Scambia G, Salgarello M. Versatility of pedicled anterolateral thigh flap in gynecologic reconstruction after vulvar cancer extirpative surgery. *Microsurgery.* 2017 Sep;37(6):516-524.
6. Phillip J, DiSaia WTC. *Clinical gynaecologic oncology.* 7th ed. 2007.
7. Filobos G, Chapman T, Khan U. Split anterolateral thigh (ALT) free flap for vulva reconstruction: a case report. *Journal of Plastic, Reconstructive & Aesthetic Surgery.* 2012 Apr 1;65(4):525-526.
8. Benedetti Panici P, Di Donato V, Bracchi C, Marchetti C, Tomao F, Palaia I, et al. Modified gluteal fold advancement V-Y flap for vulvar reconstruction after surgery for vulvar malignancies. *Gynecol Oncol.* 2014;132(1):125-129.
9. Song YG, Chen GZ, Song YL. The free thigh flap: a new free flap based on the septocutaneous artery. *Br J Plast Surg.* 1984;37:149-159.
10. Piura B, Masotina A, Murdoch J, Lopes A, Morgan P, Monaghan J. Recurrent squamous cell carcinoma of the vulva: a study of 73 cases. *Gynecol Oncol.* 1993;48(2):189-195.
11. Benedet JL, Turko M, Fairey RN, Boyes DA. Squamous carcinoma of the vulva: results of treatment, 1938 to 1976. *Am J Obstet Gynecol.* 1979;134(2):201-207.
12. Creasman WT, Phillips JL, Menck HR. The national cancer database report on early stage invasive vulvar carcinoma. The American college of surgeons commission on cancer and the American cancer society. *Cancer.* 1997;80(3):505-513.