



ORIGINAL RESEARCH PAPER

Plastic Surgery

**AXILLARY HIDRADENITIS SUPPURATIVA
SURGICAL MANAGEMENT : CASE SERIES**

KEY WORDS:

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ABSTRACT

Introduction: Hidradenitis suppurativa is a chronic inflammatory condition affecting the apocrine gland bearing skin including axilla, inframammary area, inguinal, perianal, gluteal and pubic region etc. This disease was described as chronic inflammation of apocrine glands termed as apocrinitis by Harrison. However, it's a misnomer it also involves the eccrine glands and subcutaneous tissue. **Methods:** We present here a case series of 10 patients, presented with recurrent bilateral hidradenitis. All of them were females. Patients underwent surgical excision of the disease involving all the hair bearing skin and subcutaneous reaching upto the axillary sheath including 1-2 cm of adjacent normal tissue. The defect was converted into rhomboid shape and covered by anteriorly based limberg flap taken from the lateral side of chest. **Results:** Patients were followed for 3 months. Wound healed well in most of the patients (80%). 2 patients had had wound dehiscence (20%) which was managed conservatively by dressings. No recurrence till date. Patients achieved full range of motion at shoulder joint. **Conclusion:** Bilateral axillary limberg flap with complete excision of diseased tissue for treatment of bilateral axillary hidradenitis has given excellent results with no flap failure, aesthetically good scars, early post op recovery, lesser operative time, lesser surgical skills and full range of shoulder mobility. There has been no recurrence of the disease in all our cases till now.

INTRODUCTION:

Hidradenitis suppurativa is a chronic inflammatory condition affecting the apocrine gland bearing skin including axilla, inframammary area, inguinal, perianal, gluteal and pubic region etc. It occurs mostly in 3rd to 4th decade (1,2,3). The most common site is the axilla for women and the perineal region for men. 75% of axillary hidradenitis occurs bilaterally (4).

The disease is characterized by nodules, abscesses, formation of skin tunneling and scarring. The etiology of the disease is unknown, however it is found to be associated with diabetes, smoking, polycystic ovarian disease, obesity, immunocompromised status, poor hygiene, genetic mutations (5,6,7). Hidradenitis suppurativa have been identified as an endocrine disorder responding to cyproterone acetate. Additionally, it is linked with various autoimmune diseases like inflammatory bowel disease, Downs syndrome, psychiatric conditions etc. Hurley's staging classification is used for grading the severity of the disease (8).

Various treatment modalities have been described for treatment, like antibiotics., steroids, immunomodulators, UV light, vaccine, fever therapy etc. However, surgery is the definitive treatment (9,10).

Following wide local excision of the disease, it's challenging for the plastic surgeon to cover such huge defects. Various reconstructive strategies have been used for coverage of the wound, ranging from healing to secondary intention of skin

grafts and flaps. Various ways of reconstruction by flaps have gained popularity from local flaps to free flaps, e.g.

Pedicled Fasciocutaneous flaps like thoracodorsal artery perforator flap, circumflex scapular artery, perforator flap, serratus anterior artery perforator flap, inner arm artery perforator flap, posterior arm artery perforator flaps, deep inferior epigastric artery perforator flap etc.

In our case series of 10 patients, we present presented a unique and simple technique of converting the axillary defects into rhomboid shape and using rhomboid flap for coverage of bilateral axillary defects post excision of bilateral hidradenitis.

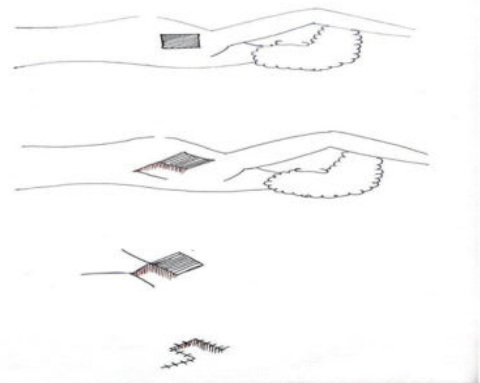


Fig 1: Diagrammatic representation of the anteriorly based

limberg flap for the axillary defect post excision of axillary hidradenitis.



Fig 2 : Case 1 preoperative pictures of bilateral axillary lymphadenitis



Fig 3: Case 1 Post operative picture of left axillary limberg flap



Fig 4: Case 1 Post operative picture of right axillary limberg flap



Fig 5 : Case 2 preoperative pictures of bilateral axillary lymphadenitis



Fig 6 : Case 2 post operative pictures

Patient And Methods:

We present here a case series of 10 patients who presented with recurrent bilateral axillary hidradenitis in our institute from December 2021 onward till now. Patients had severe recurrent bilateral axillary hidradenitis (Hurleys stage 3). All of them were female, ranging from 25–40 years. 8 of them presented with bilateral axillary hidradenitis alone (80%) and 2 of them presented with perineal hidradenitis along with bilateral axillary hidradenitis (20%) which was dealt with later on. Patients were prepared for surgery. All routine preoperative investigations were sent with swab for culture sensitivity. Swab of 2 patients revealed klebsiella pneumonia and antibiotics were started accordingly. The rest of the 8 patient's swab revealed no organism.

Surgical Technique:

Under general anesthesia. Wide local excision of bilateral axillary hidradenitis was done.

Excision of all the hair bearing skin and the subcutaneous tissue was done depth reaching till the axillary fascia (to prevent recurrence) , keeping atleast 1-2 cm of margin of normal tissue. Dissection was done carefully. Keeping in mind the axillary vessels. After excising the disease in toto the defect created was converted to rhomboid shape and limberg transposition flap was marked over the lateral chest region on the posterior axillary margins in 8 patients(80%) and on anterior axillary margins in 2 patients (20%). The incision kept and the limberg transposition flap was raised bilaterally and sutured to the defect.

RESULTS:

Wound was examined starting from post operative day 2 on every alternate day till post operative day 14, thereafter twice weekly on opd basis till one month. Antibiotics were tailored according to culture sensitivity report. Post operatively physiotherapy was started on post operative day 1. Alternate suture removal of was done on post operative day 16 and all sutures were removed by post operative day 21. Patients were followed for 3 months. Wound healed well in most of the patients (80%). 2 patients had had wound dehiscence (20%) which was managed conservatively by dressings. No recurrence till date. Patients achieved full range of motion at shoulder joint.

DISCUSSION:

Velpau in 1839 first described hidradenitis suppurativa. (11). This disease was described as chronic inflammation of apocrine glands termed as apocrinitis by Harrison. However, it's a misnomer because it also involves the eccrine glands and subcutaneous tissue.(12).

After the axillary dissection, various options have been described in literature for coverage of the wound. Currently,

there is lack of consensus on the best reconstructive method (13).

The reconstructive methods for coverage of the axillary defect post Hidradenitis suppurativa excision is direct closure, split thickness skin grafting , artificial skin (2 staged procedure)(14), faciocutaneous flap, musculocutaneous flap, pedicled flaps like thoracodorsal artery perforator flap, inner arm flap, posterior arm flap, parascapular flap, free flaps like DIEP flap etc., negative pressure wound therapy.

Primary closure of the defect has been described as small wound defects. However, it has been found that it limits shoulder abduction. Similarly, STSG has been associated with axillary contractures and limits shoulder movement. It is found that 2 staged reconstructions using artificial skin is superior than straight STSG (15).

Flap reconstruction for the axillary defect has always been giving superior results when compared with STSG. O'Brien et al. used anteriorly based limberg flap in women and posteriorly based limberg flap in men (16).

Pedicled, propeller flaps, free flaps have been described in literature for reconstruction of the axillary wound defects. However, it is time-consuming, with long operating hours, requiring high surgical skills and associated with more post-operative complications and may also require coverage of the donor site with split thickness skin grafting.

Here we are using a simple limberg flap for the coverage of post-excision axillary defect. Excision of the disease was done in to axillary vessels sheath in order to prevent recurrence. Higher recurrence rate was found when leaving subcutaneous fat or hair bearing skin (17,18). Post disease excision, the axilla retains its diamond shape and is covered using a rhomboid flap easily. The flap can be raised anteriorly from the lateral part of the chest to the line of the axilla. The flap can be raised easily with lax tissue around the axilla, less operative time, less surgical skills and fewer post, operative complications and a suture line was hidden, functionally and aesthetically giving acceptable scars and the bilateral side can be operated without changing the position of the patient on the operation table. A full range of bilateral shoulder movement was present postoperatively.

In our experience, the defects in all the patients were able to be covered with a single limber flap. This flap fits well in the axillary defect as the shape of the axilla itself is rhomboid. However, in cases of large defects double Limberg flap can be used.

CONCLUSION:

An old school thought, simplicity is the ultimate sophistication. Yes, indeed, we found a simple method of using bilateral axillary limberg flap for treating axillary hidradenitis with full complete resection of the disease has given. Excellent results in our cases with no recurrence till date. However, apart from the recurrence giving aesthetically good scars, early post-op recovery, less operative time, less surgical skills and full range of shoulder mobility , less donor site morbidity and single posture for surgery . Even though many pedicled and perforator flaps are available, the dissection of perforators, long operation time, flap failure rates, donor site morbidity are more.

Conflicts of Interest: The authors declare that there are no relevant conflicts of interest.

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Ethical Approval: As this study is retrospective case series and identity or any personal information of patients are not revealed ethical approval is not needed

Consent to Participate: Identity of the patient is not revealed in any of images hence it is not applicable

Consent for Publication: Identity of the patient is not revealed in any of images hence it is not applicable.

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