



Original Article:

Morbidity following Surgical Management of Vulval Cancer.

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Abstract: The objective of this study was to know the complications following vulvectomy and inguinofemoral lymphadenectomy including the time taken to complete wound healing. 42 patients who were subjected to either radical or modified radical vulvectomy for primary and inguinofemoral lymphadenectomy (80 groins) for groin metastases were analysed retrospectively. The complications analysed were wound breakdown, wound cellulitis or infection, lymphocyst, limb edema and the time to wound healing. In a total of 80 inguinofemoral lymphadenectomies 55% had wound breakdown, 17.5% had wound infection/cellulitis, lymphocyst in 31%, limb edema in 36% and time taken for complete wound healing ranged from 10-134 (average 46 days). Overall post operative morbidity was 85%.

Key Words: Carcinoma Vulva; Morbidity; Inguinofemoral lymphadenectomy.

Introduction:

Approximately, Vulval cancer (VC) accounts for 5-8% of all female genital tract malignancies.(1) The median age for invasive Vulval cancer is 63 and averaged 62.5 with a range of 65-70 years.(2) Over recent years, the management of VC has undergone considerable evolution with emphasis being placed on the tailoring of surgery to each case, rather than a bland surgical treatment policy.(3-5) Significant morbidity has been reported in over 50% so treated,(6-7) there is more onus on clinicians to provide less radical but equally curative treatment while also reducing the morbidity.(8) Earlier enbloc radical vulvectomy with bilateral Inguinofemoral lymphadenectomy(IFL) has been replaced by three separate

vulval and groin incisions. This less aggressive approach has been validated by comparable survival trends, with a concomitant decrease in morbidity.(9-10) Wound cellulitis, wound breakdown and lymphedema occurs in 25-39%, 17-31% & 28-39% of the patients respectively.(11-13)

Objectives: 1. To study the complications following surgery for vulval cancer 2. To know the time taken for wound healing following surgery as it may delay in adjuvant treatment

Patients and Methods

This is a retrospective study, conducted at Kidwai Memorial Institute of Oncology (KMIO), Bangalore, India. Patients records were analysed during the period between January 2006 and December 2011 diagnosed as vulval cancer.

A total of 62 patients of vulval cancer were diagnosed during the said period and retrieved information of 42 patients like clinical details, surgical treatment executed as well as complications following surgery and pathological characteristics of primary lesion and lymphnode status.

Clinically size of the primary ranged from 1.5cm to 8cm in its longest diameter and the size < 2cm were noticed in 2 patients and > 2cm were seen in 40 patients. The direction(side) of the primary is described as left or right or central. The term central lesion is coined when the tumour is within 1cm of midline either anteriorly or posteriorly.

Surgical intervention included either Radical vulvectomy (35 patients) or Modified radical vulvectomy (7 patients) for the primary and Inguino femoral lymphadenectomy (IFL) for the groin. IFL was performed in 80 groins (42 patients) through separate skin incisions placed between anterior superior iliac

spine and pubic tubercle parallel to inguinal ligament and with a length of about 7-9 cm. The borders of IFL include Sartorius muscle laterally, Adductor longus medially, 2-3cm above the inguinal ligament superiorly and until the Femoral vessels crossed over by the Sartorius inferiorly. All lymphoareolar and fibrofatty tissue within the boundaries described, were removed along with cribriform fascia and lymphatic tissue over the Femoral vessels as well. Great saphenous vein was sacrificed in all cases. Wound was approximated with intermittent sutures and closed suction drains were placed in all the groins for 7-9 days and was removed when the drain is less than 50ml whichever is early or when wound breakdown leading to drainage of pus or lymph through main wound or when the drain is not functioning because of clogging. Early mobilization, crepe bandages, active physiotherapy and anti thrombotic measures were used in all cases following IFL.

Following surgery wound related complications were observed like margin necrosis (discoloration of margins of at least 0.5cm from skin edges), wound breakdown (both vulval and groin which required at least one intermittent suture removal or because of margin necrosis with discharge of pus or lymph), lymphorrhoea following wound breakdown, lymphocyst (accumulation of serous fluid in subcutaneous space confirmed by needle aspiration), wound infection or cellulitis (with signs of inflammation, discharging pus and or confirmed by culture and sensitivity) and development of limb edema as observed at the time of follow up. Wound healing time is calculated during follow up of patients and is described here as approximation of skin margins either by primary or secondary intention. Based on stage of the disease the patients were then subjected for further adjuvant treatment.

Statistical analysis:

The test of proportion (Normal test for large samples) is conducted to compare a proportion of the present study with similar findings of other studies. P value, < 0.05 was considered statistically significant. The version used was MedCalc statistical version 9.01.

Results

Of the 42 patients, 35 patients underwent Radical vulvectomy and 7 patients Modified radical vulvectomy for the primary lesion. The size of the primary was in majority > 2 cm in 95.23% patients (n=40) and less than 2cm in 2 patients (4.76%). Inguino femoral lymphadenectomy (IFL) was performed in all 42 patients (n=80, bilateral in 38 patients and unilateral in 4 patients) using separate incisions.

Characteristic	No. (%)
Age (years)	
Average	62.5
Median	63
Range	28-85
Direction of primary tumor	
Central	22(52)
Right	10(24)
Left	10(24)
Size of primary(range)	
< 2cm	40(95.23)
>2cm	02(4.76)

Histopathologically, the primary was Squamous cell carcinoma in 97.6% (n=41) and Malignant melanoma in 2.38%(n=1) of patients. In Squamous cell carcinoma grade 1 tumors were 23(56%), grade 2 were 12(29.26%) and grade 3 were 6(14.6%). The pathological T status was pT1b in

39(95.12%) and pT2 in 2(4.9%) patients in squamous cell carcinoma variety.

Characteristic	No. (%)
Squamous cell carcinoma(SCC)	41(97.6)
Grade 1	23(56)
Grade 2	12(29)
Grade 3	06(14)
Malignant Melanoma	01(2.4)
Primary size of SCC	
pT1b	39(95.12)
pT2	2(4.9)
Pathological N stage	
pN0	17(40.5)
pN+	25(59.5)
Extracapsular spread	08(19)
Deep node positive with superficial inguinal lymph node negativity	2(4.76)

Following IFL, the groin lymph node metastases was observed in 59.52% (25) patients and extracapsular spread was noted in 19% (n=8) of patients. Average yield of lymphnodes in our setup was 7.46 (range 5-19) and average size of metastatic lymph node was 2.01cm (range .5-8cm). The positivity of deep nodes without involvement of superficial node positivity was in 4.76% (n=2).

Table 3: Vulval wound breakdown and infection between current study and other studies

	Vulval wound breakdown N (%)	Vulval infection N (%)
Current study	22/42(52.38)	22/42(52.38)
Gaarenstorm (12)	9% (p=<.0001)	9% (p=<.0001)
Ali ayhan (14)	NS	NS
Podratz(15)	NS	NS
NS not studied		

Wound breakdown or infection of vulval wound occurred in 22 patients(52.38%) and the time to complete vulval wound healing averaged 52 days (range 10-98days).

Table 4: Overall complications between current study and other studies

	Overall complications	Margin necrosis	Time to wound healing	
			Vulva Average (range)	Groin Average (range)
Current study	85.7%	35%	52 (10-98)	46 (10-134)
Gaarenstorm (12)	76% (p=<.0001)	NS	NS	
Ali ayhan(14)	73.80% (p=<.0001)	NS	NS	
Podratz(15)	85% (p=<.0001)	NS	NS	
NS not studied				

Complications from IFL observed were margin necrosis(35%,n=28), wound breakdown which included breakdown without margin necrosis(55%, n=44), lymphocyst (31.25% ,n=25) and cellulitis or infection(17.5%, n=14). Lower limb edema was noticed in 36.25%(n=29) of groin dissection and the time to complete groin wound healing ranged from 10-134 days averaging 46 days.

Table 5 : Complications between current study and other studies following Inguinofemoral dissection

	Wound breakdown	Lymphocyst	Wound infection/Cellulitis	Limb edema
	N %	N %	N %	N %
Current study (n=80)	44 (55%)	25 (31.25%)	16 (17.5%)	29 (36.25%)
Soliman(16) n=64	6 (9.7%) (p=<.0001)	8 (12.51%) (p=.0078)	17 (27.4%) (p=.3518)	3 (4.8%) (p=<.0001)
Ali ayhan(14) n=32	8 (25%) (p=.004)	1 (3.1%) (p=.0014)	4 (12.5%) (p=.3492)	1 (3.1%) (p=.0003)
Gaarenstorm(12) n=187	21 (11%) (p=<.0001)	50 (27%) (p=.4524)	51 (27%) (p=.2092)	40 (21%) (p=.0111)

Discussion

Even with the employment of using separate incisions for primary tumor and groin dissections, the overall morbidity associated with the procedure is relatively very high. In our analysis we found the patients having one or the other complications in 85.7%(n=36) which is in accordance with the literature where rates of 73.6%,(14) 76%,(12) and 85%,(15) were observed ,and was statistically significant.

Wound breakdown or infection of vulval wound was present in 52.38% of patients which is significant when compared to 9% in another series.(12)

In a different series of patients, the reported rates of wound breakdown ,lymphocyst and limb edema are 9.7-25%, 3.1-27% and 4.8-21%(12,14,16) respectively which when compared to our series of complications were significant. The reported rates from wound infection or cellulitis ranged from 12.5-27%(12,14,16) and were not significant statistically. Our observation is that relatively high rates of wound breakdown, limbedema and lymphocyst formation was due to larger infected primary and poor personal hygiene.

Pathologically deep femoral lymphnode metastases was noted in 2/42(4.76%) patients without superficial nodal metastases which is in accordance with the series which had 5/93 (5.37%) of patients.(12)

Conclusion:

Presently IFL is standard of care for groin metastases from vulval cancer and because of high rates of complications which we attribute to larger infected primary and poor personal hygiene which adds to morbidity for patient even psychologically. The delay in wound healing will also delay in instituting the adjuvant treatment which in turn will reduce the overall disease free survival. The newer modalities of groin dissections like minimally invasive procedures needs to be thought of in management of groin metastases in order to reduce the complications.

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