

## EVALUATION OF SINGLE LAYER ABDOMINAL WALL CLOSURE IN OBSTETRICAL AND GYNAECOLOGICAL OPERATIONS

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### SUMMARY

125 cases of obstetrical and gynaecological operations, elective or emergency, were undertaken for study irrespective of pre-operative infections, debilitating disease, corticosteroid therapy, previous surgery or obesity. Mass closure by a technique shown in photograph has proved to be very satisfactory when compared to layered closure regarding post-operative complications.

### INTRODUCTION

Controversy exists in the choice of suture material and method of abdominal wound closure. Sound healing of an incised abdominal wall is an index of good surgical care (Dennis, 1973). Since 1973, different workers have carried out experimental comparative studies on conventional repair versus single layer closure.

Madsen (1953) observed that tissue reaction was more in multilayer closure and there was weakening of fascia leaving out the suture. Dudley (1970) showed devascularisation and destructive forces caused ischaemic necrosis in multilayered closure. Sharma et al (1986) opined the cushioning effect of mass closure.

A prospective study has been conducted on

mass closure of abdomen in routine and emergency gynaecological and obstetrical operations to evaluate its status.

### MATERIAL AND METHODS

125 cases undergoing laparotomy in the department of Obstetrics and Gynaecology in Govt. Women Hospital of Medical College, Amritsar were undertaken for the study in the year 90-91. The study included planned surgical operations and emergency operations like caesarean sections, laparotomy for acute ectopic and rupture uterus, irrespective of the age group, parity, socio-economic status, nutritional status, obesity and built, pre-operative infection, use of antibiotics or any corticosteroid therapy, irradiation therapy or any previous surgery. The abdominal incision was subumbilical, midline and vertical. The wound was closed in single layer

## OBSERVATIONS

Table - I

## Indications for Operations

Gynaecology		Obstricts	
Total abdominal hysterectomy with bilateral salpingoophorectomy	23	LSCS was done for following indications :	
Wertheim's hysterectomy	1	Previous LSCS with impending rupture	15
Myomectomy	2	Foetal distress	8
Ovariectomy	2	Prolonged labour	10
Salpingo-oophorectomy	3	APH	14
Salpingectomy with tubectomy	1	BOH	2
Hysterotomy with bilateral tubectomy	3	Complicated breech	8
Bilateral tubal ligation	10	Face presentation	1
		Transverse lie	7
		Cervical dystocia	2
		Obstructed labour	3
		Failed induction	1
		Failed forceps	1
	Total	Total	
	47	78	
	(37.6%)	(62.4%)	

Table - II

Age in years	No. of pts.	Parity	No. of pts.	Socio-Economic status	No. of pts.	Built	No. of pts.
20 - 30	73	1	68	Low Income group	104	Poorly built	76
31 - 40	32	2	22	Middle Income group	19	Moderately built	38
41 - 50	15	3	11	High Income group	2	Well built	11
51 & above	5	4 & onward	24				

Notes :  
36 patients were abese

Table - III

Pre-operative infection	Pre-op. use of antibiotics	H/o long term steroid intake	Any previous surgery
Present in 36	12 patients were on antibiotics	1	Present in 29
Absent in 89	at least 24 hours before the surgery		Absent in 96

Table - IV

Medical debilitating disease	Pre-operative complications	
	Surgical	Anaesthetic
Diabetes Mellitus - 2	Presence of adhesions - 7	Nil
UTI - 4	Extension of uterine incision - 2	
	Oedematous lower segment - 3	
	Excessive bleeding - 2	
	Haematoma at angle - 1	

Table - V

## Post-operative assessment

S. No.	Complications	Percentage	Remarks
1.	Fever	10.5%	Fever of more than 100.4° F on two separate occasions after the first 24 hours post-operatively
2.	Abdominal distension	1.6%	
3.	Wound infection :		
	Minor superficial	22.4%	
	Deep	0.0%	
4.	U. T. I.	12.8%	
5.	Reactionary haemorrhage	0.0%	
6.	Vomiting	28.8%	
7.	Paralytic ileus	0.8%	
8.	Pulmonary embolism	0.0%	
9.	Spotting per vaginum	3.2%	
10.	Vaginal discharge	1.6%	
11.	Wound dehiscence	1.6%	
12.	Delayed wound healing	0.8%	
13.	Hypertrophic and painful scar	0.8%	
14.	Post-operative herniation of scar	1.6%	



with interrupted mattress suture with black silk No. 2 as shown in photograph.

#### DISCUSSION

Post-operative fever incidence of 10.5% in this series is comparable to an incidence varying from 8.7 to 12.5% in multilayered closure of hysterectomies (Sandhu & Tung, 1984).

Paralytic ileus incidence of 0.8% is definitely lower than 3.1% reported by Sandhu & Tung (1984) and 3.7% reported by Rochowiak (1980).

There was no case of secondary haemorrhage in this series as compared to 2.1% in the series of hysterectomies (Sandhu & Tung, 1984).

Pulmonary embolisation reported was nil in the series as compared to 0.6% by Sandhu & Tung (1984).

Wound dehiscence incidence is 1.6% while Higgins et al (1969) got it at 0.7% compared to 3.7% in layered closure. Sharma et al (1986) reported wound dehiscence of 4.7%. Singh et al

(1981) reported no wound dehiscence. Wound dehiscence has been reported from 0.5 to 14% by Goligher et al (1975). Thus wound dehiscence incidence in this series is quite low as compared to most of previous workers.

Post-operative herniation at scar of 1.6% is higher than reported by Sharma et al (1986) at 0.4%. Singh et al (1981) reported no incisional hernia.

Minor superficial wound sepsis was present in 22.4% cases. The incidence is much higher than 6.6% reported by Singh et al (1981) perhaps due to loose criterion of selection of cases. Jones et al (1941) reported 27.5% wound infection in layered closure.

0.8% incidence of delayed wound healing in this series is much lower than 3.3% reported by Singh et al (1981).

Hypertrophic and painful scar was seen in 4.8% while Sharma et al (1986) states that it is less common than in layered closure.

On the whole it is inferred that mass closure is a definitely better technique of abdominal closure than layered one and is recommended for routine use.

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