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Role of Drainage and Peritoneal Closure after Radical Abdominal Hysterectomy and Bilateral Pelvic Lymph Node Dissection

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Introduction
Whether to close or not to close visceral peritoneum and to drain or not to drain the peritoneal cavity after Radical Abdominal Hysterectomy with Bilateral Pelvic Lymph Node Dissection has been a controversial issue since long. Traditionally many advantages of peritonization and putting a pelvic drain have been emphasized. However studies have not proven these instead have indicated towards advantages of not putting drains and non closure of visceral peritoneum. The present study was undertaken to compare these two techniques.

Aims and objective: *To compare the post operative outcome in patients undergoing Radical Abdominal Hysterectomy with Bilateral Pelvic Lymph Node Dissection with drain and peritoneal closure or without drain and peritoneal non-closure.*

Patient and Methods: *Ours was a prospective case control study over a period of 2 years 2 months. In this study 108 patients undergoing Radical Abdominal Hysterectomy with Bilateral Pelvic Lymph Node Dissection were enrolled. Group I (control group) consisted of 49 patients in whom visceral peritoneal closure was done and pelvic suction drains were cited. Group II (study group) consisted of 59 patients in whom peritoneal non closure was opted and suction drains were not placed. Patients were followed through the post operative period, observed for intra operative and post operative complications, need for blood transfusion, operative time, hospital stay, return of bowel activity and commencement of oral feeding. Occurrence of post operative complications that increase short term post operative morbidity like febrile illness, wound hematoma, infection, dehiscence, paralytic ileus were especially noted The detection of lymphocysts was made by clinical examination and abdominal ultrasound at two weeks, 12 weeks and one year postoperatively*

Result: *Both groups were similar with respect to age and FIGO stage. The median follow up was 12 months (range 7 months to 24 months). There was no significant difference in the short term post operative complications including pain scores. Though not very significant but there is a shortening of operative time*

in group II with no significant differences in need of blood transfusion and other operative complications. Post operative ambulation and commencement of oral feeding was attained earlier in group II though again not significant. The diagnosis of lymphocysts by clinical examination in group I was made in three (6.1%) and six (12.2%) cases respectively and in group II three (5.08%) and five (8.4%) cases respectively. Out of these two (4.08%) cases in group I and none of the cases in group II required drainage. These differences were also not found to be significant.

Conclusion: *Present study indicates that leaving the peritoneum unsutured and not draining the peritoneal cavity by suction drains is not likely to be hazardous in the short term instead it may be of benefit especially in decreasing incidence of lymphocysts, though the long term effects with regard to future adhesion formation etc. need to be assessed after follow up. Thus both the procedures pelvic suction drainage and peritoneal closure can be safely omitted without any adverse effects.*

Keyword--- *Abdominal drain, radical, hysterectomy, pelvic, lymph node, peritoneal closure.*

Objective

To Compare the post operative outcome in patients undergoing Radical Abdominal Hysterectomy with bilateral pelvic lymph node dissection (RAH+BPLND) with drain and peritoneal closures or without drain and peritoneal non-closures.

Introduction

Whether or not close visceral peritoneum and to drain the peritoneal cavity after Radical Abdominal Hysterectomy and bilateral Pelvic Lymph node dissection (RAH+BPLND) has been a controversial issue since long. Traditionally closures of the peritoneum was advocates with the agreement that it possibly allows for 1) restoration of the peritoneal and approximation of the tissue for healing 2,)Re-establishment of the peritoneal barriers to decrease the risk of infection, 3) prevention of adhesion formation between intestines and fascia, 4) decreases risk of herniation or dehiscence. However none of this advantage have been proven by prospective randomized trials. Instead studies have shown that the sutures pertonealisation leads to tissue ischemia, necrosis, inflammation, foreign body reaction to suture material which interferes with the healing process and acts as precursor for adhesion formation. Beside shortening operative time none –closure of pelvic peritoneum is found to lower postoperative morbidity, wound hematoma, wound infection, use of postoperative analgesia, bladder adhesions. It is associated with quicker return of bowel activity and economic benefits in terms of suture used for peritoneal closures, shorter operating room time, and reduced anaesthesia expenses. Also if peritoneal suturing is abandoned, It allows peritoneal resorption of lymph. Likewise neither putting suction drains after RAH+BPLAND is again not associate with any proven advantage nor withholding drains leads to any serious hazard. Previously it was thought to prevent lymphocyte formation but studies have not proved so. Patients with drains definitely find ambulation difficult.

Method

A Prospective study was undertaken from June 2004 to August 2006 at Cancer Hospital And Research Centre Institute Gwalior. In this study 108 patients undergoing RAH+BLPND were enrolled and were randomized at the end of the surgery either to have or not two suction drains inserted in the peritoneal cavity with or without peritoneal closures. Surgical technique adopted was the standard Type III RAH as described by Meig. Group I consisted 49 patients in whom visceral peritoneal was closures was done and suction drains were cited in place. Group II comprised of 59 patients in whom peritoneal non-closures was opted and suction drains were not placed. Patients were followed through the postoperative period and observed for intra operative and postoperative complications, need for blood transfusion, operative time, hospital stay return of bowel activity with commencement of

oral feeding. Occurrence of postoperative complication that increase short terms postoperative morbidity like febrile illness, wound hematoma, infection , dehiscence, paralytic ileus, were especially noted, The detection of lymphocytes in particulars was made by clinical examination and abdominal US at 2 week, 12 week and one year postoperative.

Result

Both groups were similar with respect to age and FIGO stage. The Median Follow-up was 12 month (range 7 month to 24 month).

Table 1 . Postoperative complication:-

S.N	Post op complication	Group In =49	Group II n = 59
1	Febrile Morbidity	5	4
2	Wound hematoma, infection , dehiscence's	3	2
3	Paralytic ileus	2	2
4	Pelvic Cellulites	-	-
5	Postoperative Pain	NS	NS
6	Haemorrhage	-	-
7	Obstruction	-	-

The study showed no significant different in the short terms postoperative complications including pain scores.

Table 2. Intraoperative Parameters

Parameter	Group I n = 49	Group II n = 59
Operating time	3 hrs (2.5-4 hrs)	2.8 hrs (2.5 -4 hrs)
Need of blood transfusion	NS	NS
Intraop complications	NS	NS

Thought not very significant but there is a shortening of operative time in group II with no significant different in need of blood transfusion and other operative complication (table 2)

Table 3 . Postoperative Ambulation

Group	Before third day	After third day
Group I n = 49	20	29
Group II n= 59	30	29

Table 4. Commencement of oral feeding :-

Group	Before two day	After two day
Group I n = 49	30	19
Group II n= 59	45	14

It is clear from table 3 and 4 that indeed there is a consistent though non significant trend for the improved immediate postoperative outcome in the from of early resumption of bowel activity, commencement of oral feeding and early ambulation in group II where peritoneum is not closed and drains are not kept.

Table 5. Lymphocyte Formation

	Group I n = 49	Group II n= 59
Clinical Examination	3 (6.1%)	3 (5.08%)
Ultrasound	6 (12.2%)	5 (8.4%)
Intervention	2(4.08%)	NONE

The diagnosis of lymphocytes was made by clinical examination and ultrasound in 3/49 (6.1%) & 6/49 (12.2%) of cases in group I and 3/59 (5.08%) & 5/59 (8.4%) of cases in lymphocytes. Out of these only 2/49 (4.08%) of cases in group I required drainage of lymphocytes. These different between two group are not significant.

Discussion

In operative gynaecology , controlled trails of peritoneal non-closures in abdomen and radical hysterectomy (Than 1994) and lymphandectomy (Kadanali 1996) have demonstrated no difference, or an improvement in short terms postoperative morbidity if the peritoneum is not closed. In the trail of peritoneal non- closure when lymphadenectomy was practiced, Peritoneal non-closure significantly reduced adhesion formation . As per the study of franchi et al (1997) the amount of drainage was significantly higher in the group with closed peritoneum. Pennehouat G. Et al (1988) and Thome saint paul M (1991) showed that Closures of the peritoneum after pelvic LND may increase the incidence of lymphocytes. Studies of lopes AD et al (1995), Jenson JK et al, pastner B et al (1995), Srisomboon J et al (2002), Bafna UD et al (2001) all conclude that there were no signification different in incidence of lymphocytes and post operative morbidity irrespective of whiter the peritoneal cavity was drains or not drained postoperative. Currently available evidence raised question concurring the use of peritoneal closures as convention practices in routine gynaecological surgery. There seems to be no signification different in short terms morbidity from non- closures of the peritoneum and non- drainage of the peritoneal cavity compared routine closures with drains. Indeed there is a consistent although non signification trend for improve immediate postoperative is not closed and drainage is not done. The question of long terms benefits of hazards of leaving the peritoneum unsutured in wound closure has not been addressed in the trails performed to date.

Conclusion

Present study indicates that leaving the peritoneum unsutured and not draining the peritoneum cavity by suction drains is not likely to be hazardous in the short terms, and may be of benefits thought the longer terms effect remain unknown . Same is suggested by the available evidences but the absence of information on long terms benefits of complication on non- closures of the peritoneum and non drainage of the peritoneum cavity is a serious defects in this research literature so longer terms follow- up with regards to future adhesion formation and operative complication is required . Non –closures of the pelvic. Peritoneum appears to be use full procedure for decreasing incidence of lymphocytes after RAH+ BPLAND. Also there appears to be no advantage to the routine use of pelvic suction drainage following RAH+BPLAND with no role in prevention of postoperative morbidity. Thus both procedures can be safely omitted without any adverse effects.

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