

DIAPHRAGMATIC SURGERY IN OVARIAN CANCER: OUR EXPERIENCE IN ITS EVOLUTION, COMPLICATIONS AND MANAGEMENT AT TATA MEDICAL CENTER, KOLKATA, INDIA

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INTRODUCTION

- Diaphragmatic resection (DR) and Diaphragmatic stripping/peritonectomy (DS) are increasingly being performed to achieve complete cytoreduction during debulking surgery for advanced ovarian cancer (OC).
- Managing post operative complications is challenging and requires a dedicated team to decrease the morbidity and mortality due to associated pulmonary complications.

AIMS

To evaluate pulmonary complications following diaphragmatic surgery in patients with advanced ovarian cancer and develop post-operative protocols to decrease complications.

MATERIAL & METHODS

- Retrospective observational study between January 2015 – June 2018.
- Women with advanced ovarian/ fallopian tube/ primary peritoneal carcinoma undergoing primary debulking surgery (PDS) and interval debulking surgery (IDS) who had diaphragmatic surgery were included.
- Type of diaphragmatic surgery- ablation, stripping or muscle resection was recorded.
- Pulmonary complications and management were collected from HMS and from morbidity database.

POST OPERATIVE PROTOCOL

- Pre-operative evaluation of pulmonary function and incentive spirometry.
- Immediate post-operative monitoring in intensive care unit.
- Rapid weaning off the ventilator when stable cardio respiratory function.
- Chest x-ray on post-operative day 1- if DR done/ patient symptomatic, to be repeated as indicated.
- Thoracocentesis - indicated if patient is symptomatic with significant pleural effusion.
- Intracavitary chest tube – if respiratory compromise/ large diaphragmatic resection/ Pneumothorax /recurrent pleural effusion.
- ICD- should be removed when < 50- 100ml in 24 hrs.
- Antibiotics – if pulmonary infection confirmed.
- General measures- incentive spirometry, chest physiotherapy and inhalational medications pre and post operative.

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RESULTS

TABLE 1: Study Population

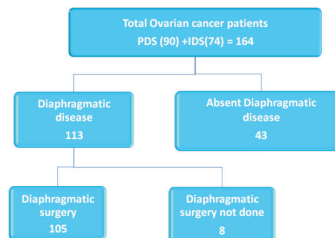


TABLE 2: Demographic profile

VARIABLES	PDS (59)	IDS (46)
Median Age	51	53
FIGO Stage III	48 (81.3%)	18 (39.1%)
Stage IV	11 (18.6%)	28 (60.8%)
Serous	52 (88.1%)	42 (91.3%)
Clear	02 (3.3%)	01 (2.1%)
Endometrioid	01 (1.6%)	0
Mucinous	0	1 (2.1%)
Non epithelial	4 (6.7%)	2 (4.3%)
Median CA 125	1420	3104

TABLE 3: Surgical Characteristics

VARIABLES	PDS (59)		IDS(46)	
Diaph disease	57(96.6%)		45(89.1%)	
Right side	57(96.6%)		45(89.1%)	
Left side	41(69.4%)		31(67.3%)	
Diaph procedure	Rt side(57)	Lt side(41)	Rt side(45)	Lt side(31)
Ablation	05 (8.4%)	12 (20.3%)	14 (30.4%)	15 (32.6%)
Peritonectomy	53 (89.8%)	30 (50.8%)	31 (67.3%)	17 (36.9%)
Muscle resection	13 (22.0%)	02 (3.3%)	04 (8.6%)	00
LS score				
LS1	10 (16.9%)	11 (18.6%)	15 (32.6%)	17 (36.9%)
LS2	08 (13.5%)	17 (28.8%)	17 (36.9%)	09 (19.5%)
LS3	38 (64.4%)	13 (22.0%)	12 (26.0%)	02 (4.3%)
Not mentioned			01 (2.17%)	03 (6.5%)
Mean SCS	11		08	
Mean PCI	23		14	
Splenectomy	26 (44.0%)		07 (15.2%)	
Total Peritonect.	54 (91.5%)		37 (80.4%)	
Liver resection	10 (16.9%)		02 (4.3%)	
Bowel resection	41 (69.4%)		15 (32.6%)	

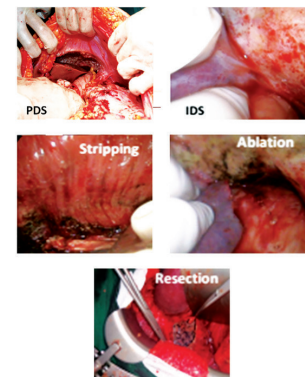


TABLE 4: Interventions

INTERVENTIONS	PDS (59)	IDS (46)
Pleural drainage	22 (37.2%)	10 (21.7%)
ICD insertion	15 (25.4%)	01 (2.1%)
Ventilation(>24 hrs)	16 (22.1%)	06 (13%)
Non invasive ventilation	18 (30.5%)	07 (15.2%)
Re intubation	06 (10.1%)	02 (4.3%)
Mean Hospital stay	14	09

TABLE 5: Complications

VARIABLES	PDS (59)	IDS(46)
Pleural effraction	23 (38.9%)	13 (28.2%)
Pleural effusion	40 (67.7%)	16 (34.7%)
Atelectasis	27 (45.7%)	7 (15.2%)
Pneumonia	7(11.8%)	3(6.5%)
Pneumothorax	01(1.6%)	0(0%)
Pulmon. embolism	0	0
Mortality <30 days	01(1.6%)	01(1.6%)

SUMMARY / CONCLUSION

- Diaphragmatic surgery as part of an extensive upper abdominal procedure has acceptable morbidity rate.
- Pleural effusion is the most common pulmonary morbidities and can be managed without chest tube placement for all the patients. Prophylactic drainage can be considered in patients with asymptomatic but significant pleural effusion as a postoperative intervention to decrease pulmonary complications.
- Pre-operative optimization and post-operative proactive management play an important role in decreasing pulmonary complications

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