Infective morbidity after ovarian cancer surgery: challenges with antimicrobial resistance

Ramesh Shrestha, Saujanya Karmacharya, Bijoy Kar, Manisha Karar, **Asima Mukhopadhyay**

Introduction

- Emerging new antimicrobial resistance mechanisms - emerging threat for treatment of post surgical complications in ovarian cancer patients
- This results in delay for initiating chemotherapy, prolonged illness and disability and even mortality.
- Brooker et al. reported 11.0% postoperative infectious morbidity in post surgical ovarian cancer patients.

Aim

- To assess the intectious morbidity in ovarian cancer patients after surgery
- To assess the association of stool surveillance culture with postoperative infection, infectious microbiological agents and its utilisation

Method

- Type of Study - Retrospective Observational study
- Study Place and Duration - 2 years (2016-2017) at Tata Medical Center, Kolkata.
- Study sample size - 76
- Source - Data extracted from hospital electronical medical records.
- Statistical Analysis - IBM-SPSS Version 24.

Results and Discussion

Table 1. Demographic profile

Characteristics	
Age in years (median)	56 (11-72)
BMI (median)	26 (17-35)
Diabetes (%)	12 (15.8)
IDS (%)	32 (42.1)
PDS (%)	44 (57.9)
Gastrointestinal resection (%)	22 (28.9)
Splenectomy (%)	13 (17.1)
Diaphragmatic resection (%)	30 (39.4)

Table 2. Relation of demographic profiles and infection

Characteristics		Total	Infection (%)
Age	<50yrs	23	39.1
	≥50yrs	53	50.9
BMI	<25	24	54.16
	≥25	52	46.15
Diabetes		11	63.6
IDS		32	46.8
PDS		44	54.5
Gastrointestinal resection		22	77.27
Splenectomy		13	69.23
Diaphragmatic resection		30	66.66

Distribution of microorganism in stool surveillance

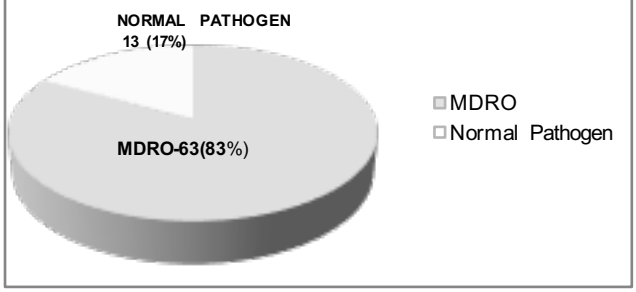


Figure 1. Various culture reports

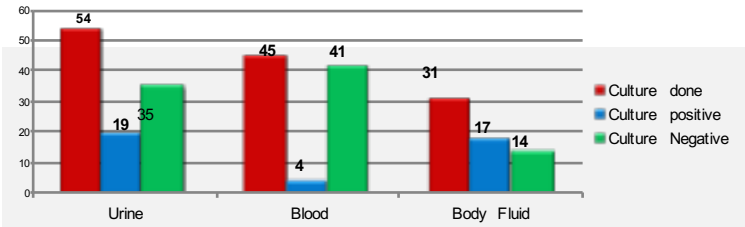


Table 3. Various culture sensitivity reports

ANTIBIOTICS NAME	STOOL (n=63)		BLOOD (n=4)		URINE (n=19)	
	Sensitive	Resistant	Sensitive	Resistant	Sensitive	Resistant
Amoxicillin+Clavulanate	11 (17.5%)	52 (82.5%)	1 (25.0%)	3 (75.0%)	2 (10.5%)	17 (89.5%)
Amikacin	55 (87.3%)	8 (12.7%)	1 (25.0%)	3 (75.0%)	8 (42.0%)	11 (58.0%)
Meropenem	55 (87.3%)	8 (12.7%)	2 (50.0%)	2 (50.0%)	12 (63.0%)	7 7 (37.0%)
Piperacillin+Tazobactam	51 (81.0%)	12 (19.0%)	2 (50.0%)	2 (50.0%)	7 (37.0%)	12 (63.0%)
Colistin/Fosfomycin	62 (98.4%)	1 (1.6%)	4 (100%)	0 (0%)	18 (94.7%)	1 (5.3%)

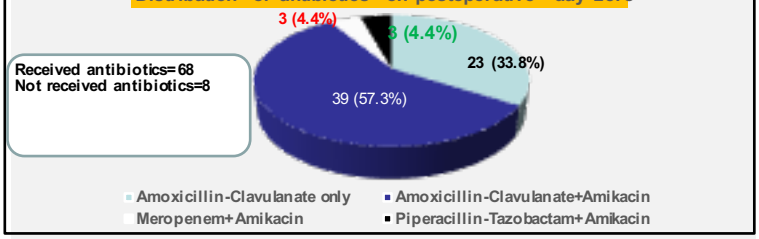
Table 4. Surgical procedures and most common complication type

Surgical procedures	Most common complication type	Incidence
Diaphragmatic stripping	Pulmonary	83.3%
Splenectomy	Septcaemia	8.0%
Bowel resection	Gastrointestinal	45.0%

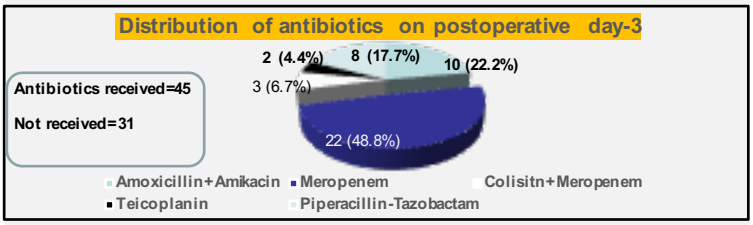
Table 5. Most common organisms isolated in sample

Sample	Most common Micro organism	Percentage
Stool	E. Coli	79.4% (50/63)
Blood	E. Coli	50% (2/4)
Urine	E. Coli	53% (9/17)

Distribution of antibiotics on postoperative day zero



Distribution of antibiotics on postoperative day-3



30 days postoperative morbidity score

Clavein Dindo Grade	Number (n=76)
I	2
II	42
III	17
IV	5
V	0

Conclusions

- E.Coli – Commonest organism isolated in stool with strong correlations with urine and blood stream infections.
- It is reasonable to perform stool surveillance and start presumptive antibiotics to prevent postoperative infectious morbidities based on culture sensitivity of MDRO organisms colonizing stool.

TATA MEDICAL CENTRE, Kolkata
14 MAR (E-W), New Town,
Rajarhat,
Kolkata 700 160
E-mail:
Phone: +91 33 6605 7000

Corresponding author: Dr. Asima Mukhopadhyay
Email address: asima.mukhopadhyay@tmckolkata.com

TATA MEDICAL CENTER