

Mannheim Peritonitis Index In Predicting Prognosis In Patients With Secondary Peritonitis Following Hollow Viscous Perforation

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Abstract: Prognosis of patients with peritonitis due to perforation and its complications was studied using Mannheim peritonitis index score. Patients admitted with diagnosis of secondary peritonitis due to hollow viscous perforation were the study subjects. The total number of study subjects was 30 cases with only 1 mortality which was a case of gastric perforation due to malignancy. As the MPI SCORE rises ,there was increase in morbidity and mortality. MPI scoring system was able to predict morbidity and mortality ,thus serving as a useful tool in the analysis of secondary peritonitis.

Keywords: Peritonitis, APACHE -II, Complications, Perforation

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I. Introduction

Peritonitis is a life threatening condition in general surgery with high mortality rate. The mortality rate is influenced by the physiological reserve of the patient and the severity of peritonitis. Mannheim peritonitis index is a disease specific scoring system for patients with peritonitis .Secondary peritonitis remains the most common cause of intraabdominal sepsis with high mortality. MPI appears to be more practical and reliable means of risk evaluation than other scoring systems such as APACHE II. MPI was developed by Wacha and Linder in 1937.8 Risk factors are included under MPI with a maximum score of 47. Score of >26 indicates poor outcome.

II. Methods

All patients admitted to Coimbatore medical college under department of general surgery with the diagnosis of secondary peritonitis and taken up for exploratory laparotomy were the study population. The total number of study subjects was 30 cases during the period OCTOBER 2016-APRIL 2017. Patients with peritonitis due to hollow viscous perforation in the age group of 20-60 yrs were included .All patients with polytrauma, primary peritonitis, postoperative peritonitis and age group <20 and >60 yrs were excluded.

Mannheims peritonitis index(mpi) criteria used are:

PARAMETER	FINDING	POINTS
AGE IN YRS	<50	0
	>50	5
GENDER	MALE	0
	FEMALE	5
ORGAN FAILURE	ABSENT	0
	PRESENT	5
PRESENCE OF MALIGNANCY	ABSENT	0
	PRESENT	4
PREOPERATIVE DURATION FOR >24 HRS	ABSENT	0
	PRESENT	4
PRIMARY FOCUS	NON COLONIC	0
	COLONIC	4
DIFFUSE GENERALISED PERITONITIS	ABSENT	0
	PRESENT	6
NATURE OF EXUDATE	CLEAR	0
	VISCOUS	6
	PURULENT	6
	FAECULENT	12

ORGAN FAILURE	FINDINGS
KIDNEY	Blood Urea>100mg/dl Creatinine>2mg/dl Oliguria<20 ml/hr
LUNG	Pao2<50 mmHg Paco2>50mmHg
SHOCK	Hypodynamic Hyperdynamic
INTESTINAL OBSTRUCTION	Paralysis>24 hrs Complete mechanical ileus

MPI SCORE =SUM of points present

III. Observation

CRITERIA		NO OF CASES	PERCENTAGE	MORTALITY	COMPLICATIONS
AGE	<50YRS	21	63%	0	7
	>50YRS	9	37%	1	5
SEX	MALE	22	73%	1	10
	FEMALE	8	27%	0	2
ORGAN FAILURE	ABSENT	28	93%	0	10
	PRESENT	2	7%	1	2
PRESENCE OF MALIGNANCY	ABSENT	29	97%	0	11
	PRESENT	1	3%	1	1
PRE OP DURATION	<24HRS	9	30%	0	2
	>24 HRS	21	70%	1	10
PRIMARY FOCUS	NONCOLONIC	29	97%	0	11
	COLONIC	1	3%	1	1
DIFFUSE PERITONITIS	ABSENT	11	45%	0	4
	PRESENT	19	55%	1	8
NATURE OF EXUDATE	CLEAR	3	10%	0	0
	VISCOUS	27	90%	1	12
	PURULENT	0	0%	0	0
	FAECULENT	0	0%	0	0

CAUSES OF PERITONITIS

- Gastric perforation 1
- Duodenal perforation 19
- Jejunal perforation 2
- Ileal perforation 2
- Colonic perforation 2
- Appendicular perforation 4

COMPLICATIONS

- 1) Burst abdomen
- 2) SSI
- 3) Enterocutaneous fistula
- 4) Sepsis
- 5) Respiratory failure
- 6) Pelvic abscess

IV. Results

Maximum MPI score noted in the study -32
Minimum MPI score noted in the study -9

RELATION BETWEEN MPI SCORE AND COMPLICATIONS

score	No of cases	complications	%
<26	29	11	37%
>26	1	1	100%

RELATION BETWEEN MPI SCORE AND MORTALITY

score	No of cases	Death	%
<26	29	0	0
>26	1	1	100

V. Discussion

In this study ,increase in MPI score was associated with increased complications and increased mortality whereas age and sex is not found to be a statistically significant factor.The average MPI score of patients with complication is 21 ie 29 cases had MPI score less than 26 .Similarly MPI scoreof patients with no mortality was less than 26 whereas 1 patient with mortality had MPI score more than 26.

VI. Conclusion

The Mannheim Peritonitis Index is a simple ,reliable ,accurate index in assessment of prognosis of peritonitis .High MPI score has increased risk of complications and mortality compared to others . However further evaluation has to be done with increase in sample size.

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