

## “EVALUATION OF VALUE OF CRP AND LACTATE IN BOWEL OBSTRUCTION AS A PREDICTOR OF STRANGULATION”.

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### ABSTRACT

**BACKGROUND:** block in functions and mechanisms of regular journey of fecal matter via the gi tract". The block can be because of conditions inside the seromuscular layer or external to it or in within the hollow space inside. It can be 50% or 100%. The classical consequence is the collection of flatus in the bowel causing inflation of the intestine. The treatment of emergency sbo can be taken based on multiple factors. Even good doctors with experience, labs and diagnostic centres find it difficult to take decision on the basis of treatment of sbo

**AIM:** The aim of this study is to examine whether CRP and lactate levels could predict bowel gangrene/strangulation in patients with bowel obstruction.

**Objectives:** Efficacy of CRP in diagnosis of bowel gangrene/strangulation due to acute bowel obstruction.

Efficacy of serum lactate levels in diagnosis of bowel gangrene/strangulation due to acute bowel obstruction.

**MATERIALAND METHODS:** subjects coming to Krishna hosp Karad with complaints and classical features of sbo in casualty will be accessed from the DOA-1 till patient goes home.

The subjects with C/F of sbo taken from casualty in the time period from 2020 and 2022 were selected.

**RESULTS:** A Prospect research on Combo of increased S C -r prot and D – Lact as essential Biochemical lab tests in diagnosis of Bowel Gangrene in sbo cases consisted 100 pats coming with C/F of SBO and entrapment. All pats presenting with sbo were included, s CR Prot & D-lact in abg were acquired pre op and their rise was compared with OT findings of intestinal gangrene.

Abd painful sensation was found in 98 pats (98%) . non reducible swelling was found in 40% (n=40) of the patients.

The incidence of vomitus in pats was 67% . Abdominal distension was found in 58% (n=58) . Guarding was present in 60% (n=60) .

The gangrene of the bow was found in 58% (n=58) of the pats while the others were norm (n=32, 32%) or pre gangrene condition (n=10, 10%).

The mn s Lact on abg was raised (mean=870.25, S. D= 192.67) and s CR Prot was raised (mean= 141, S. D= 43.37) in pats with gangrene

**CONCLUSIONS:** Clinical examination and radiological modalities play mainstay role in prediction of bowel gangrene/strangulation in acute intestinal obstruction cases .

Serum CRP and serum lactate are useful biomarkers in prediction of bowel gangrene/strangulation

### INTRODUCTION

"block in functions and mechanisms of regular journey of fecal matter via the gi tract". The block can be because of conditions inside the seromuscular layer or external to it or in within

the hollow space inside.<sup>1</sup> It can be 50% or 100%. The classical consequence is the collection of flatus in the bowel causing inflation of the intestine.

The treatment of emergency sbo can be taken based on multiple factors. Even good doctors with experience, labs and diagnostic centres find it difficult to take decision on the basis of treatment of sbo.<sup>2</sup>

fast and exact identification of the sbo with the cause is important for good treatment and outcome . The C/F, cause, total number of cases of entangalment is not definitive causing vague treatment protocols.

Bowel entangalment/entrapment is the most severe prognosis of the disease that may need an urgent surgery. Exp.lap is the management required.<sup>3</sup>

## **AIM AND OBJECTIVES**

### **AIM**

The aim of this study is to examine whether CRP and lactate levels could predict bowel gangrene/strangulation in patients with bowel obstruction.

### **OBJECTIVES**

Efficacy of CRP in diagnosis of bowel gangrene/strangulation due to acute bowel obstruction.

Efficacy of serum lactate levels in diagnosis of bowel gangrene/strangulation due to acute bowel obstruction.

## **MATERIALS AND METHODS**

### **Research structure**

Prospective Single Centre research

### **center of research**

Krishna Hospital Karad

### **Research time duration**

2020 to 2022

### **Research subjects & Sampling process**

- ❖ subjects coming to Krishna hosp Karad with complaints and classical features of sbo in casualty will be accessed from the DOA-1 till patient goes home.
- ❖ The subjects with C/F of sbo taken from casualty in the time period from 2020 and 2022 were selected.
- ❖ This research consists of 100 subjects coming with C/F of SBO.

### **Inclusion criteria:**

- Subjects within age group of 25-70 yrs with C/F of SBO and who were operated for exp. lap at Kims Karad .

### **Exclusion criteria:**

- subjects with pre existing problems such as ckd ,heart disease,diabeties and bleeding disorders
- subjects already identified with bowel entrapment
- subjects with mesenteric vascular ischemia

### **Methodology**

100 consecutive subjects coming to the casualty of Krishna hosp Karad with C/F of SBO were recruited. The subjects who gave hint of C/F OF sbo and those who underwent emergency exp lap were also considered in the research. The OT findings led to forming of 2 clusters ;

those with uncomplicated sbo and those with complicated sbo .  
subjects who had other miscellaneous diseases

- Ckd
- heart disorders
- DM
- bleeding disorders

were not considered in the research. These disorders which can disturb the course of the research. DM and CKD can cause False+ve interpretations. Other OT findings were also not considered in the research.<sup>4,5</sup>

### OBSERVATIONS AND RESULTS

A Prospective research on combo of increased levels of CR prot and D – Lact in abg as important Biochemical tests to diagnose intestinal Gangrene/entrapment in sbo included 100 subjects coming with C/F SBO . All subjects coming with sbo of were taken into consideration, serum CR prot & D-lact in abg to be cosiderd.<sup>6</sup>

According to any H/O old operations , abd painful sensations, non reducing enlargements, wrtching or passing vomitus, abd protrusion, P/A positive findings, intestinal gangrn, pre gangrn intestine and viable intestine.

**Tab: 3 Freq and percn distribun of subjects accordn to Previous H/O of operation**

H/O operation	N	%
Appendix and uterus removal	7	7
Uterus removal	8	8
Hollow viscus perfn	6	6
Exp lap for sbo	8	8
Exp lap for adhesion removal	5	5
Nil	66	66

**Tab: 4 Freq and percent distribn of pats accordn to abd painful sensations**

Abd painful sensations	n	%
PRE	98	98
ABS	02	02

**Tab: 5 Freq and percent distribn of pats accordn to non reducing protrusion**

Non reducible swelling	N	%
PRES	40	40
ABS	60	60

**Tab: 6 Freq and percent distribn of pats accordn to passing of vomitus**

VOMITUS	N	%
PRES	67	67
ABS	33	33

**Tab: 8 Freq and percent distrin of pats accordn to Abd Distn**

Abd Distn	N	%
PRES	58	58

ABS	42	42
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**Tab: 9 Freq and percent distribn of pats according to Guarding/Rigidity**

Guarding/Rigidity	N	%
PRE	60	60
ABS	40	40

**SECTION: II**

**Tab: 12 Freq and percent distribn of pats accordn to Gangrene of the intestine**

Gangrene of the intestine	Pres	Abs	Ch sq test	
			t val	p val
Gangrene	58(58%)	42(42%)	<b>36.98</b>	<b>&lt;0.0001</b>
Pre-Gangrene	10(10%)	90(90%)		
Viable bowel	32(32%)	68(68%)		

**Inferential Statistics**

	Abg lact in viable bow	CR Prot NORM	Lact gangrene	CRProt gangrene	Lact Pre gangrene	CRProt Pre gangrene
<b>N</b>	32	32	58	58	10	10
<b>Mn</b>	536.625	86.625	870.2586	141	937.5	144.5
<b>S.D</b>	369.8735	68.23477	192.6796	43.3707	86.09846	12.36707
<b>MIN</b>	102	2	320	36	778	125
<b>Mx</b>	1009	168	1156	436	1009	168
<b>Md</b>	668.5	129	955.5	140	996	146.5

**Tab 13: Mn, S.D, Min, mx and Md**

**Table 14: Ch-sqr and p-val**

Gangrene of the Bowel	Pres	Abs	Ch-sqr tst	
			t val	p val
Gangrene	58(58%)	42(42%)	<b>51.96</b>	<b>&lt;0.0001</b>
Pre-Gangrene	10(10%)	90(90%)		
Norm	32(32%)	68(68%)		

## DISCUSSION

A Prospect research on Combo of increased S C -r prot and D – Lact as essential Biochemical lab tests in diagnosis of Bowel Gangrene in sbo cases consisted 100 pats coming with C/F of SBO and entrapment.<sup>7,8</sup> All pats presenting with sbo were included, s CR Prot & D-lact in abg were acquired pre op and their rise was compared with OT findings of intestinal gangrene.<sup>9</sup>

Abd painful sensation was found in 98 pats (98%) . non reducible swelling was found in 40% (n=40) of the patients.

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## Summary

1 of the m.c problem in surgical field is acute intestinal obs. It goes hand in hand with increased number of debilitated patients and not at all cost effective for hosps worldwide .<sup>12</sup> It is a m.c factor for admiting in the surgery wards. Bowel obs is a critical disease that needs fast diagnosis and management.difficulty faced in sbo cases is the difficulty to separate uncomplicated and cases with complications. This is important to take decision if exp lap is needed or whether the patient can be conserved.<sup>13</sup>

The s lact in abg and S CR prot are essential Biochemical tests in diagnosing intestinal Gangrene in sbo.

## CONCLUSIONS

Clinical examination and radiological modalities play mainstay role in prediction of bowel gangrene/strangulation in acute intestinal obstruction cases .

Serum CRP and serum lactate are useful biomarkers in prediction of bowel gangrene/strangulation.

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