



## A STUDY OF ACUTE MESENTERIC ISCHEMIA AND ITS IMPACT IN PATIENTS LIFE IN A TERTIARY CARE CENTRE

<b>Dr. Rosy Adhaline Selvi*</b>	Associate Professor, Department of General Surgery, Govt. Stanley Medical College, Chennai. *Corresponding Author
<b>Dr. Malarvizhi Chandrasekaran</b>	Assistant Professor, Department of General Surgery, Govt. Stanley Medical College, Chennai.
<b>Dr. Praveen Jeyakumar</b>	Post Graduate, Department of General Surgery, Govt. Stanley Medical College, Chennai.
<b>Dr. Ajay Kumar</b>	Post Graduate, Department of General Surgery, Govt. Stanley Medical College, Chennai.
<b>Dr. Vasanth Kumar</b>	Post Graduate, Department of General Surgery, Govt. Stanley Medical College, Chennai.

**ABSTRACT** **INTRODUCTION:** The incidence of acute mesenteric ischemia is more common and most of the time require surgical management. This study is conducted in order to know the prevalence, their surgical management, post-operative complications, morbidity and mortality they cause to the patients.

**SUBJECTS AND METHODS :** A total of 11 patients diagnosed with acute mesenteric ischemia who underwent surgery are included in the study from January 2018 to December 2018 in a single unit in department of general surgery in government Stanley medical college and hospital. Their clinical scenario and appropriate management were analysed.

**RESULTS:** patients in study who underwent surgery, had bowel gangrene and they underwent bowel resection, followed by ostomy. All patients (100%) underwent some sort of post operative complications and their morbidity is very high and mean duration of hospital stay is prolonged approximately one month (nearly 100%, except those who died in post op period). The mortality rate is about 37% (n=4 out of 11) which is significant.

**CONCLUSION:** Acute mesenteric ischemia carry significant amount of morbidity and mortality to patients and should be treated efficiently to prevent many complications.

**KEYWORDS :** Mesenteric ischaemia, morbidity.

### INTRODUCTION:

Intestinal ischemia can affect both small and large intestine and can be caused by any cause which reduces blood flow such as arterial occlusion, arterial vasospasm and venous occlusion. The most common cause for acute mesenteric ischemia is arterial embolism followed by other causes. The most common source of emboli is heart and the most common artery involved is superior mesenteric artery. In acute mesenteric ischemia timely diagnosis is more important or else patient may land up in sepsis and death. The most common site of SMA involved is distal to the origin of middle colic artery.

### Intra-operative Pics Showing Bowel Gangrene



### SUBJECTS AND METHODS:

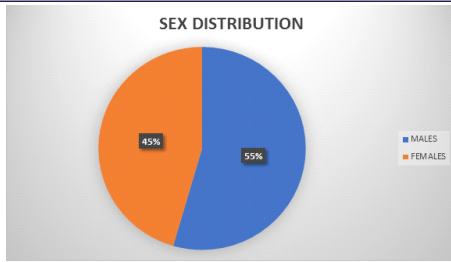
A total of 11 patients were included in the study. Only acute mesenteric ischemia involving superior mesenteric artery or vein were included in study not the chronic ones. The study was conducted over a period of one year from January 2018 to December 2018 in a tertiary care centre (govt Stanley medical college and hospital). A proforma was created which includes patient clinical history, co-morbidities, investigations, nature of surgery they underwent, post-operative complications and their mortality and all was recorded.

All patients presented with a common symptom as acute abdominal pain of short duration usually less than 48 hours. Other symptoms includes fever, vomiting, abdominal distension, diarrhoea etc. All patients were diagnosed pre-operatively using contrast enhanced CT abdomen and pelvis, since CT-ANGIOGRAM is not available in emergency setting in our institution. All underwent laparotomy and nature of surgery depends on the intra operative finding.

Every patient in study had some sort of bowel infarction and gangrene and lead to bowel resection followed by ostomy. Out of 11 patients 63.6% (n=7) underwent jejunostomy and 36.6% (n=4) underwent proximal ileostomy. For all these patients post-operative complications like weight loss, anaemia, nutritional deficiencies, local wound complications, acute kidney injury and electrolyte imbalances were studied. Post-operatively all patients were evaluated for the cause of acute mesenteric ischemia. Patients who survived in the post-op period underwent ostomy take down procedure from 4-6 weeks after initial surgery (out of 11 patients, 7 underwent ostomy takedown procedure except who died post operatively).

### RESULTS:

Among 11 patients in study, the male : female ratio is 6 : 5 that is 54.5% are males and 45.5% are females. The most common co-morbidity associated with most of the patients is type 2 diabetes mellitus, about 7 patients has pre-existing disease.



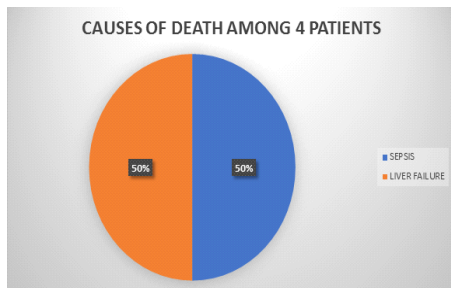
Post-surgery all patients went for significant weight loss 10% of their original weight. Among 11 patients, 81.8% (n=9) went for Anemia and other vitamin deficiencies even though they are corrected in the immediate post-operative period. Post-operatively all patients had distal loop feeding of proximal contents and adequate hydration was maintained, even though 63.6%(n=7 out of 11) patients went for acute kidney injury and recovered. Various electrolyte imbalances like hyponatremia, hypo kalemia, hypocalcemia and acidosis were seen in post-op period. About 72.7% (n=8) had electrolyte imbalances and corrected.

WEIGHT LOSS	100%
ANEMIA AND OTHER VITAMIN DEFICIENCIES	81.8%
ACUTE KIDNEY INJURY	63.6%
ELECTROLYTE IMBALANCES	72.7%
SHORT BOWEL SYNDROME	81.8%

Some other complications like local ostomy complications, altered liver function and failure and bed sore more commonly occurs in jejunostomy than ileostomy. Bed sore more commonly occurs in jejunostomy because these patients are difficult to mobilize them due to their chronic fatigue state. The percentage of above mentioned complications is listed in below table

COMPLICATIONS	Jejunostomy	ILEOSTOMY
Local ostomy complication like skin ulcers	100%(7 out of 7)	0% (0 out of 4)
Bed sore	71.4%(5 out of 7)	25%(1 out of 4)
Altered liver function	85.7%( 6 out of 7)	0% ( 0 out of 4)
Death	57.1% ( 4 out of 7)	0% ( 0 out of 4)

Out of 11 patients 4 patients died in the post-operative period (36.36%). In all 4 patients jejunostomy was done. Out of 4 patients, 2 patients died in the immediate post-operative period due to sepsis and 2 patients died after one month of surgery due to liver failure.



**DISCUSSION:**

From the above results it is clear that, acute mesenteric ischemia due to superior mesenteric artery or vein occlusion results in surgery in almost all patients and post-operatively every patient undergoes for any of the complications mentioned above, there by having significant morbidity rate and reduces the survival rate. The mortality rate is so high that one in four patients(approx.) die in post-operative period. Even some patients die pre-operatively due to sepsis because of late presentation. For all patients post-op work up to rule to causes like CT-angiogram to check for major vessel disease, echocardiogram to rule out cardiac diseases, auto immune antibodies to rule to vasculitis and other routine blood parameters and tumour markers to check for hyper-coagulable states. Four patients found to have associated aorto-iliac thrombosis with portal vein thrombosis. But in 5 (out of 11) patients, the cause cannot be made out which remains idiopathic. Without treatment acute mesenteric ischemia carries 100% mortality rate, even with timely treatment it carries a high mortality rate. The goal of management is operative exploration and to resect the compromised bowel and try to restore the blood supply and to manage the complications post-operatively. Poor management of post-op complications results in high mortality, so meticulous management is required for acute mesenteric ischemia.

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