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IMPORTANCE OF EARLY DIAGNOSIS BY IDENTIFY RISK FACTORS FOR ACUTE MESENTERIC ISCHEMIA

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ABSTRACT

Acute mesenteric ischemia was considered as high Risk and low Prevalence Disease but with increased incidences of atherosclerotic diseases due to rapid expansion of diabetes mellitus throughout the world, now Acute mesenteric ischemia is to be considered as high Risk and more commoner prevalence Disease than before. It has shown that early diagnosis is the key for outcome of disease and for this to happen, key is understanding of risk factors for Acute mesenteric ischemia. Our study aims to analyze the various risk factors associated with Acute mesenteric ischemia in our institution during past 5 years (2020-2024). Out of 50 cases of acute mesenteric ischemia, arterial embolism due to acute myocardial infarction being commonest cause followed in-order by non-occlusive mesenteric ischemia due to persistent hypotensive states, venous thrombosis (mesenteric vein thrombosis) and mesenteric vascular disease. By having close follow-up and high degree of suspicion in these patients, Acute mesenteric ischemia can be diagnosed early with better clinical outcome.

INTRODUCTION:

In 1926, A.J. Cokkinis wrote "the diagnosis is impossible, the prognosis hopeless and the treatment useless" [1]. Almost century later, it is still a common presumption that acute mesenteric ischemia (AMI) is a rare condition which inescapably leads to the death of the patient. The reason for such dreary reputation is not so much based on facts but because AMI is too often found too late when the treatment outcome is inevitably poor. Hence early diagnosis is the key, which is based on high degree of suspicion on high risk factor patients for Acute mesenteric ischemia [2]. Clinical risk factors often provide clues to the specific pathophysiology. Patients at risk for mesenteric embolus include those with a history of atrial fibrillation/flutter, recent myocardial infarction, congestive heart failure, or peripheral arterial emboli. Alternatively, a history consistent with chronic mesenteric ischemia – such as postprandial abdominal pain, weight loss, and food intolerance or previous intervention for chronic mesenteric ischemia – should raise the suspicion of an acute on chronic thrombosis of a pre-existing mesenteric artery stenosis. In contrast, patients with nonocclusive mesenteric ischemia (NOMI) are likely to be critically ill and in shock from alternative sources, having suffered significant hemodynamic insults including hypotension or dehydration in the preceding hours to days. Postoperative cardiac surgery and hemodialysis patients are classically at highest risk for NOMI [3]. With above mentioned disease conditions as risk factors which are commonly come seen in clinical settings, with high degree of suspicion in such patients will help to diagnose acute mesenteric ischemia early.

MATERIALS AND METHODS:

This is a retrospective study which analyze the various risk factors associated with Acute mesenteric ischemia. Those patients with Acute mesenteric ischemia admitted or diagnosed during their stay in hospital during past five years (2020-2024) were included, which included patients admitted for abdominal pain in emergency department or those in cardiology or intensive care unit or departments for other conditions but developed Acute mesenteric ischemia as complication are also included. Pregnant women and pediatric age group were excluded from study.

RESULTS AND DISCUSSION:

There were totally 50 patients who diagnosed to have Acute mesenteric ischemia after going through hospital records in the past 5 years. Most were male patient 38/50 (76%). Age and gender distribution were shown in table-1. Also, it is clear from the table, incidence of Acute mesenteric ischemia increases with age of patients with maximum incidence in age group above 70 years of 28%.

Table-1: Age/Gender distribution for Acute mesenteric ischemia:

S.No.	Factor	Number (n=50)	percentage
1	Gender: a) Male	38	76%
	b) female	12	24%
2	AGE: a) < 30 years	6	12%
	b) 31-40 years	4	8%
	c) 41-50 years	4	8%
	d) 51-60 years	10	20%
	e) 61-70 years	12	24%
	f) > 70 years	14	28%

Of various disease specific risk factors for Acute mesenteric ischemia, Acute Myocardial infarction is commonest risk factor in both genders constituting 17 and 4 cases respectively with 42% of all cases. This emphasizes the fact, myocardial infarction patient needs higher degree of suspicion when presents with abdominal pain. But as these patients are given high dose of antiplatelets, develop gastritis which causes may mask AMI diagnosis.

Table-2: Disease specific risk factors for Acute mesenteric ischemia:

S,no	Risk factors	Male (38)	Female (12)	Total	Percentage (– 50)
1	Acute Myocardial infarction	17	4	21	42%
2	Rheumatic heart disease with atrial fibrillation	4	2	8	16%
3	Peripheral mesenteric artery disease	8	1	9	18%
4	Hyperthyroidism	1	2	3	6%
5	Sepsis	6	2	7	14%

6	Infective endocarditis	2	1	3	6%

Conventionally, AMI is stratified into four groups by Pathophysiological - namley arterial embolism, arterial thrombosis, venous thrombosis and NOMI (Non Occlusive Mesenteric Ischemia). As shown below in the Table-3, arterial embolism is major cause for AMI constitutes 68% of the cases and it is due to either atrial fibrillation (due to hyperthyroidism or rheumatic valvular heart diseases) or cardiac chamber clots/ arrythmia following myocardial infarction. Arterial thrombosis is second come cause – 16% which occurred as result of peripheral vascular disease or sepsis induced hypotensive thrombosis. Importance of Pathophysiological risk stratification is that treatment modality varies accordingly. Example – arterial embolism usually requires embolectomy , arterial thrombosis requires thrombolysis/ stenting or vascular bypass etc. similarly Endean et al describe various surgical revascularization methods for thrombotic mesenteric occlusions[4]. NOMI (Non Occlusive Mesenteric Ischemia) is seen only in intensive care patients admitted for various other severe conditions namely heart failure, sepsis, respiratory / renal failure- hence these were patients who diagnosed late and had higher mortality too due to preexisting poor medical causes. These findings are similar to Kolkman et al study results and their discussion in their article- Non-occlusive mesenteric ischaemia: a common disorder in gastroenterology and intensive care [5]. NOMI is morbid due to its difficulty to diagnose and treat and because of its frequent association with multisystem organ failure [6,7].

Table-3: Pathophysiological Risk Factors For Acute Mesenteric Ischemia:

S.No.	Pathophysiological Factor	Number	Percentage
1	Arterial Embolism	34	68%
2	Arterial Thrombosis	8	16%
3	Venous Thrombosis	4	8%
4	NOMI	4	8%

CONCLUSION:

Our study shows male gender , acute myocardial infarction , arterial embolism inducing conditions with increasing age are major risk factors. Thus by having high degree of suspicion in this patient with early diagnostic tests focused on mesenteric ischemia, can diagnosis the condition early and improve morbidity/mortality.

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