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A Case report on mesenteric ischemia

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ABSTRACT :

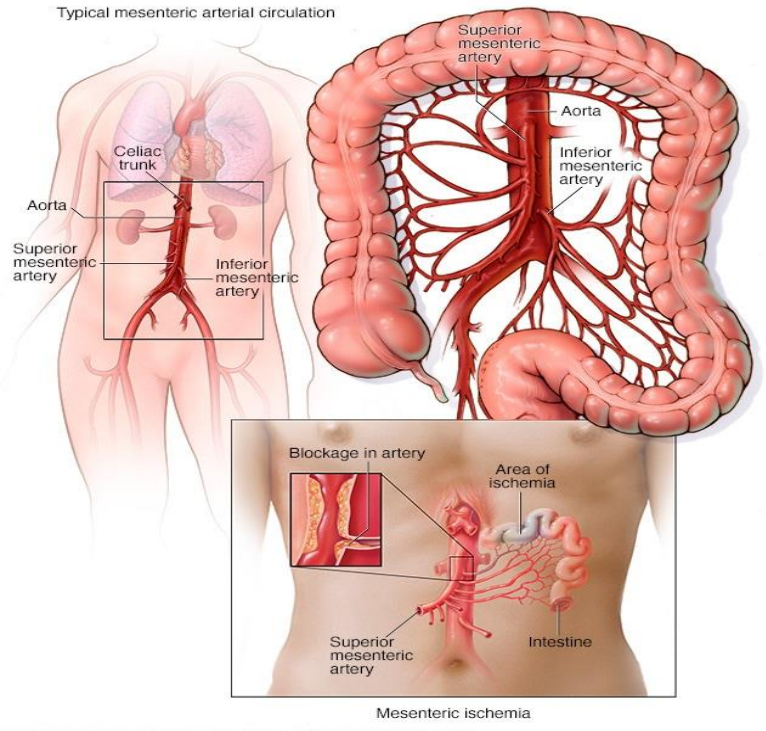
Mesenteric ischemia is an uncommon and serious medical condition that happens when parts of your digestive system don't get enough blood flow and oxygen. This can happen because of a blockage or circulatory issues. When it happens suddenly, this condition can be hard to diagnose and very dangerous.

Mr Mohan Lal was brought in IGMC hospital by his son on 8th February 2025 with the chief complaints of abdominal pain, constipation, palpitation. The patient has undergone open and proceed procedure of the abdomen on 09/02/2025.

Keywords: Mesenteric ischemia, palpitation, open and proceed procedure.

INTRODUCTION :

Acute mesenteric artery disease, commonly referred to as acute mesenteric ischemia (AMI), is a life-threatening condition caused by a sudden reduction in blood flow to the intestines. This leads to bowel ischemia, which, if untreated, can progress to intestinal infarction, sepsis, and multi-organ failure. AMI is a medical emergency with high mortality rates, requiring rapid diagnosis and intervention.



Epidemiology

- AMI is relatively rare, accounting for 1-2% of acute abdominal emergencies.
- It primarily affects older adults (over 60 years) with cardiovascular risk factors such as atrial fibrillation, atherosclerosis, or heart failure.

- Mortality rates range from 50-80%, depending on the timeliness of intervention.

Etiology & Risk Factors

AMI has four major causes:

1. Arterial Embolism (50%) – Most commonly due to cardiac emboli (e.g., atrial fibrillation, myocardial infarction, valve disease).
2. Arterial Thrombosis (25%) – Usually due to pre-existing atherosclerosis, leading to progressive stenosis and eventual occlusion.
3. Non-occlusive Mesenteric Ischemia (NOMI) (20%) – Caused by low-flow states such as heart failure, sepsis, or shock, leading to vasoconstriction and ischemia.
4. Mesenteric Venous Thrombosis (5-10%) – Results from hypercoagulable states (e.g., malignancy, thrombophilia) leading to clot formation in the mesenteric veins.

CASE PRESENTATION :

Mr Mohan Lal was brought in IGMC hospital by his son on 8th February 2025 with the chief complaints of abdominal pain, constipation and palpitation. The patient has undergone open and proceed procedure of the abdomen on 09/02/2025.

Present Medical History:

The patient complaint of abdominal pain radiating towards back which increases on lying down and decreases on sitting and leaning forward associated with constipation and palpitation.

Present Surgical History:

The patient has undergone open and proceed procedure of the abdomen on 09/02/2025 followed by admitted in HDU for further treatment and observation.

PAST HEALTH HISTORY:

- **Past Medical History**: The patient has history of hypertension for 5.6 year and was on medication. (Tab.Metoprol 25mg OD and Tab Telma 40 mg OD).
- **Childhood illness:** There no significance of any childhood illness.
- **Other illness:** There is no history of any communicable or hereditary illness in the family.

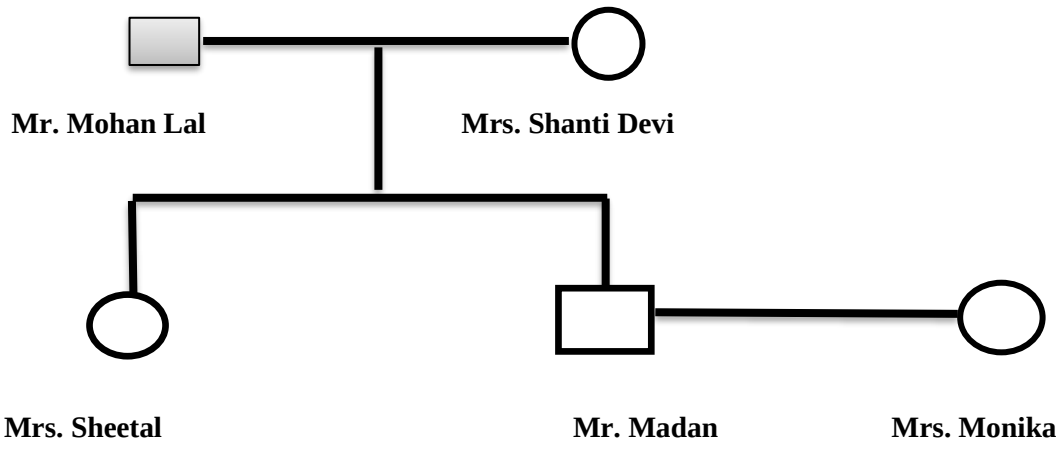
Past Surgical History:

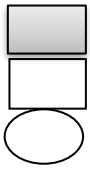
The patient has undergone abdominal surgery 14 years back (no documents or reports available).

FAMILY HEALTH HISOTRY:

Type of family:	Joint family
No. of family members:	5 members including patient
Any Illness:	Absent

FAMILY TREE





- Diseased Male
- Healthy Male
- Healthy Female

FAMILY COMPOSITION

S.NO	NAME	AGE/ SEX	RELATION WITH PATIENT	EDUCATION	OCCUPATION	HEALTH STATUS
1	Mr Mohan Lal	62/M	Self	Illiterate	Tailor	Unhealthy
2	Mrs Shanti Devi	60/F	Wife	12^{th} pass	Housewife	Healthy
3	Mr Madan	32/M	Son	Matric pass	Student	Healthy
4	Mrs Monika	30/F	Daughter in law	Matric pass	Housewife	Healthy
5	Mrs Sheetal	26/F	Daughter	B.A.	Housewife	Healthy

Preoperative

S.NO	PARAMETERS	NORMAL VALUE	PATIENT VALUE	REMARK
1	Temperature	97.8º – 99.1ºF	98ºF	Normal
2	Pulse	60-100 bpm	160 bpm	Tachycardia
3	Respiratory rate	16-20 bpm	20 bpm	Normal
4	Blood pressure	120/80 mmHg	150/84 mmHg	Hypertension
5	SpO_2	95-100%	88% in room air	Decreased

Post operative

S.NO	PARAMETERS	NORMAL VALUE	PATIENT VALUE	REMARK
1	Temperature	97.8º – 99.1ºF	98.2ºF	Normal
2	Pulse	60-100 bpm	140 bpm	Tachycardia
3	Respiratory rate	16-20 bpm	30 bpm	Tachypnoea
4	Blood pressure	120/80 mmHg	120/90 mmHg	Normal
5	SpO_2	95-100%	94% on O_2 mask (6 L/min on flow)	Normal

INVESTIGATION:

Pre operative

S.no	Investigation	Patient value	Normal value	Remark
1	Haemoglobin	18.30g/dl	13.00-18.00 g/dl	Normal
2	T.L.C	15.10 $x10^3/\mu L$	4.0-11.0 $x10^3/\mu L$	Increased
3	Platelet Count	167 $x10^3/\mu L$	150-450 $x10^3/\mu L$	Increased
4	HCT	56.30%	40-52%	Increased
5	SGOT/AST	45.00 U/L	0-45 U/L	Normal
6	SGPT/ALT	31.00 U/L	0-55 U/L	Normal

7	Amylase	1652 IU/L	25-90 IU/L	Increased
8	Potassium	4.30 mmol/l	3.50-5.50mmol/L	Normal
9	Chloride	109.00mmol/l	85-108 mmol/l	Increased
10	Sodium	130mmol/l	130-148 mmol/l	Normal
11	Urea	97.60 mg/dl	10-50 mg/dl	Increased

RADIOLOGICAL INVESTIGATION

ECG	ECG impression shows AF with VPC (ventricular premature complex) HR-127bpm
Chest X-ray	Cardiomegaly present and the rest lung field is normal.
USG	The result shows that the abdomen is grossly normal.

TREATMENT:

POST-OPERATIVE

Sr. no.	Name of the Drug	Dose	Route	Frequency	Action
1	Inj. Pantop	40mg	IV	O.D	Proton pump inhibitor
2	Inj. Piptaz	1g	IV	B.D	Antibiotic
3	Inj. PCM	100mg	IV	T.D.S	Analgesic
4	Inj. Emeset	4 mg	IV	O.D	Anti emetic
5	Tab. Dytor	10/50 mg	Orally	O.D	Diuretic
6	Tab B. Complex	1 tab	Orally	B.D	Vitamin
7	Tab. Met XL	25 mg	Orally	B.D	Anti hypertensive
8	Tab. Telma	40mg	Orally	B.D	Anti hypertensive
9	Syp. Lactulose	3tsf	Orally	T.D.S	Laxative

DISCUSSION :

Mesenteric artery disease refers to conditions affecting the blood supply to the intestines due to narrowing, blockage, or embolism in the mesenteric arteries. It includes acute mesenteric ischemia (AMI), chronic mesenteric ischemia (CMI), and mesenteric artery aneurysms.

Pathophysiology & Causes

Mesenteric arteries (including the superior mesenteric artery (SMA), inferior mesenteric artery (IMA), and celiac artery) supply blood to the intestines. Blockage in these arteries can cause intestinal ischemia, leading to severe abdominal pain, bowel infarction, and even death if untreated.
Acute Mesenteric Ischemia (AMI): A sudden lack of blood flow, often caused by embolism (e.g., from atrial fibrillation), thrombosis, or low-flow states (shock or heart failure).
Chronic Mesenteric Ischemia (CMI): Gradual narrowing due to atherosclerosis, leading to postprandial pain, weight loss, and food aversion.
Mesenteric Artery Aneurysms: Rare but can rupture, leading to life-threatening hemorrhage**.**

Symptoms & Clinical Presentation

AMI Symptoms:

- Sudden, severe abdominal pain (often out of proportion to examination findings).
- Nausea, vomiting, diarrhea, or bloody stools.
- Peritonitis in late-stage cases (suggesting bowel necrosis).

CMI Symptoms:

- Recurrent postprandial pain (intestinal angina).
- Unintentional weight loss due to food avoidance.
- Abdominal bruit on auscultation.

Diagnosis

- CT Angiography (CTA): The gold standard for diagnosing mesenteric ischemia.
- Doppler Ultrasound: Useful for detecting chronic mesenteric artery stenosis.
- Mesenteric Angiography: Can confirm the diagnosis and allow for interventional treatment.
- Lactate Levels: Elevated in severe cases, indicating tissue hypoxia and ischemia.

Treatment Approaches

- Acute Mesenteric Ischemia:
- Immediate revascularization (endovascular or open surgery).
- Thrombolysis or embolectomy for embolic causes.

CONCLUSION :

Mr Mohan Lal was brought in IGMC hospital by his son on 8th February 2025 with the chief complaints of abdominal pain, constipation, palpitation. The patient has undergone open and proceed procedure of the abdomen on 09/02/2025.

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