

Case Report

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Abdominal Pain in Elderly: Unusual case of Chronic Mesenteric Ischemia

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Abstract:

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Chronic Mesenteric Ischemia (CMI) is a rare cause of abdominal pain in patients with risk factors. Sometimes it can be difficult to diagnose this condition which leads to significant morbidity and mortality. We present a case of 70 years of female patients with risk factors who presented with abdominal pain and later diagnosed as CMI after exclusion of all other differentials. Here we are focusing on the importance of consideration of CMI in elderly patients with risk factors. Because, early diagnosis and management can prevent lethal complications.

Key words: Chronic Mesenteric Ischemia (CMI), Atherosclerosis, CTA (Computed Tomography Angiogram), Endovascular Therapy

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Introduction:

Chronic Mesenteric Ischemia (CMI) is an uncommon but potentially detrimental condition that results from occlusion of arteries of the abdomen and causes abdominal symptoms due to inadequate blood flow to the GI system.¹ The primary underlying cause of CMI is atherosclerosis of the proximal portion of Celiac trunk, Superior mesenteric or, Inferior mesenteric arteries.⁵

Women in their fifth to seventh decade of life and those who are at risk for atherosclerotic illnesses are more likely to have CMI. A history of coronary artery disease, cerebrovascular disease, diabetes, hypertension, and smoking are major risk factors.^[5] Intestinal angina and gradual weight loss are typical presentations.^[2] However, it may present with non-specific symptoms even in patients without abdominal complaints.^[8] That is why gastroenterologists may overlook it in favor of other luminal or functional differential diagnosis.^[6] So, early diagnosis can be challenging and delayed diagnosis may lead to significant complications.^[3] We present a case, where diagnosis was delayed due to atypical symptoms but we managed the patient accordingly and prevented future complications.

Case presentation: A 70 years old female patient with a past medical history of Ischemic Heart disease (IHD), Diabetes Mellitus (DM), Hypertension (HTN) and Hypothyroidism was admitted into the Gastroenterology department with the complaints of pain in the whole abdomen for 4-5 days, abdominal bloating and history of incomplete evacuation. Her past surgical history includes laparoscopic cholecystectomy and Total Abdominal Hysterectomy (TAH). On reviewing her symptoms, her abdominal pain was not

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localized, aggravated after meal, non- radiating, not associated with vomiting and nausea. She denied any history of diarrhea, fever, bleeding episodes. After her cholecystectomy she was admitted several times and visited outdoor departments for these complaints but all the investigations results came negative. On arrival, she was found to be obese, anxious, RBS was 13.7 mmol/L, BP was 130/70 mm of Hg, pulse was 88 beats /min, regular, SpO2 was 99%, temperature was 99° F, non- icteric, non-anemic, no edema. Upon palpation there was diffuse tenderness in the abdomen, mild abdominal distension, bowel sound was sluggish. Other systems revealed no significant abnormalities. Thinking of the differential diagnosis, we started our management and sent investigations accordingly. Her investigations were listed on the table below.



Fig: CTA showing narrowing of proximal part of Superior Mesenteric Artery (SMA)

After 2-3 days of conservative treatment, her intestinal obstruction was relieved, so we advised to keep the patient on a regular diet. After getting on a diet, the patient again complained of abdominal pain. Then we decided to go for CT scan of the whole abdomen with contrast, which showed grade-1 fatty change in liver, mildly dilated CBD, eccentric soft plaque at proximal part of superior mesenteric artery adjacent to its origin causing about 50% narrowing of lumen. We started anticoagulants and referred the patient to a vascular surgeon for further management.

Name of the investigation	Patient Result
Hb	11.8 g/dL
RBC	4.64 $\times 10^6$ /uL
WBC	4.75 $\times 10^3$ /uL
ESR	14 mm in 1st hour
Troponin-I	0.006 ng/ml
S. Na ⁺	141 mmol/L
S. K ⁺	4.1 mmol/L
S. Cl ⁻	103 mmol/L
TCO2	26 mmol/L
S. ALT	25 U/L
S. Lipase	180 U/L
S. TSH	7.3 mU/L
Plain X-ray of abdomen in erect posture	Suggestive of subacute intestinal obstruction
USG of whole abdomen	Left small renal cyst
Urine R/M/E:	
Epithelial cell	1-2/HPF
Pus cell	1-3/HPF
RBC	Nil
Sugar	+++
Fasting lipid profile	Revealed mixed dyslipidemia

Discussion

We all know that there are 3 main branches of abdominal aorta. These are Celiac artery, Superior Mesenteric Artery (SMA) and Inferior Mesenteric Artery (IMA). Mesenteric ischemia results from occlusion of any one of these arteries resulting in failure to meet the metabolic demands of the splanchnic organs. [5] It may be acute or chronic. CMI is an uncommon condition, it may be initially misdiagnosed. When a patient comes in with abdominal pain we have to think about some common differential diagnosis like peptic ulcer, celiac disease, malignancy, acute cholecystitis, acute pancreatitis, Myocardial Infarction (MI), acute appendicitis, Urinary Tract Infection (UTI) etc.[1] Although post prandial abdominal pain and gradual weight loss are typical presentations of CMI, sometimes patients present with vague symptoms. So, early diagnosis can be challenging. [3] The slowly developing atherosclerotic plaque is the main cause of the problem. Due to its gradual nature, the affected patients in an attempt to preserve a suitable

intestinal perfusion, collateral vessels are developed. When the collateral vessels are insufficient, the symptoms manifest.^[4] Different investigations are used to rule out the differential diagnosis. However, CTA is the main diagnostic modality in diagnosing mesenteric ischemia due to its high proven sensitivity of 93% and specificity of 100%.^[5] Not only the diagnosis, the location as well as therapeutic options can be determined by angiography^[4]. In the mesenteric vasculature, CTA can show stenosis and occlusion. The presence of peritoneal fluid, pneumatosis, or thickening of the intestinal wall are examples of associated findings that can reveal details about the health of the affected organs of the mesentery.^[5] Revascularization is the mainstay of treatment for CMI^[6]. Treatment is to reduce symptoms, restore weight, and prevent the development of acute mesenteric ischemia and intestinal infarction. Antegrade or retrograde bypass grafting, direct reintroduction of the occluded vessels, and the removal of all non-viable tissues are examples of open surgical repair methods. Percutaneous mechanical aspiration or thrombolysis can be used for endovascular thrombectomy, which facilitates percutaneous transluminal angioplasty with or without the implantation of stents^[8]. Asymptomatic patients can be managed by antiplatelet and risk factors modifications. A low-fat diet, proton pump inhibition, and short, frequent meals are examples of lifestyle changes that are only used as adjuncts; long-term anticoagulation and other medical treatments are reserved only for those who are not able to undergo revascularization^[6]. The prognosis of mesenteric ischemia depends on several factors such as type of infarction, mechanism and extent of infarction, delaying in the diagnosis, individual risk factors and comorbidities. COVID 19 increases the risk of mesenteric ischemia due to procoagulant status.^[4] Even acalculous cholecystitis is linked with CMI.^[2] So, we have to recognize the atypical symptoms to reach the diagnosis and rule out all other differentials by clinical evaluation.

Conclusion:

CMI is an important but not widely recognized cause of postprandial abdominal pain. When detected early enough, mesenteric ischemia is

curable and reversible. When dealing with mesenteric ischemia symptoms, it is important to think about getting a complete biological profile of the patient in order to identify any uncommon illnesses that might be causing the ischemia. Physicians should be aware of this rare illness to help patients live better lives and avoid any fatal complications.

Conflicts of Interest: Nothing to declare.

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