Prevalence and clinical significance of mesenteric artery stenosis in elderly patients with acute abdomen

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ABSTRACT

Objective: To investigate the prevalence of mesenteric artery stenosis and its association with acute mesenteric ischemia (AMI) among elderly patients presenting to the emergency department with acute abdominal pain.

Methods: This single-center retrospective cohort study included 500 consecutive patients aged ≥65 years who underwent contrast-enhanced computed tomography in the emergency department owing to acute abdominal pain between 2013 and 2014. Imaging data were retrospectively evaluated by a consultant interventional radiologist for 50% or greater stenosis of the superior mesenteric artery (SMA), celiac artery (CA), and inferior mesenteric artery (IMA). The main outcomes of interest were the prevalence of atherosclerotic mesenteric artery stenosis in patients with acute abdominal pain, the prevalence of AMI in patients with mesenteric artery stenosis, and later presentation of mesenteric ischemia until the end of the follow-up, August 2025.

Results: Altogether, 123 patients (25%) had a mesenteric artery stenosis. Fifty-nine patients (12%) had ≥50% stenosis of the SMA, of whom 28 (5.6%) had 50% to 69% SMA stenosis and 31 (6.2%) had ≥70% SMA stenosis or total occlusion. In patients with SMA stenosis, a concomitant CA stenosis was recorded in 22 patients (37%) and 11 (19%) had a three-vessel disease involving the SMA, CA, and IMA. Forty patients (8.0%) had multivessel stenosis (SMA + CA, SMA + IMA, CA + IMA or SMA + CA + IMA). The prevalence of SMA stenosis increased with age; it was observed in 22 (6.9%) patients aged 65 to 79 years and in 37 (20%) patients aged ≥80 years. There were 14 patients (2.8%) with isolated 50% to 69% stenosis of the SMA of whom none had AMI at presentation; 9 patients (1.8%) had isolated ≥70% SMA stenosis of whom 2 (22%) presented with AMI. Of all patients with ≥70% SMA stenosis, 12 of 31 (39%) presented with AMI, and 12 of 40 (30%) with any multivessel stenosis presented with AMI. One of the patients with incidental mesenteric artery stenosis (ie, no AMI at presentation) developed symptomatic mesenteric ischemia during follow-up.

Conclusions: Mesenteric artery stenosis is a relatively common clinical problem in elderly patients with acute abdomen. The risk of AMI is significant in emergency room patients with ≥70% SMA stenosis and involvement of other mesenteric arteries (multivessel disease). Occurrence of later symptoms seems to be rare in patients with incidental asymptomatic mesenteric artery stenosis. (J Vasc Surg 2026;83:91-9.)

Keywords: Visceral; Mesenteric artery; Mesenteric artery stenosis; Prevalence; Acute mesenteric ischemia; Acute abdomen

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The epidemiology of asymptomatic mesenteric artery stenosis and its possible progression to mesenteric ischemia is poorly known. Previous studies have presented estimates for the prevalence of mesenteric artery stenosis in asymptomatic patients ranging between 6% and 33% based on ultrasonography, angiography, and postmortem examinations.[1-4] Three previous studies have reported the natural history of asymptomatic mesenteric artery stenosis.[2,5,6] Thomas et al[2] retrospectively analyzed 980 consecutive aortograms; 65 patients had ≥50% celiac artery (CA) stenosis, 31 had ≥50% superior mesenteric artery (SMA) stenosis, and 40 had ≥50% inferior mesenteric artery (IMA) stenosis. Two-vessel stenosis was present in 25 cases and three-vessel in 15 cases. Only four patients developed mesenteric ischemia during a mean follow-up of 2.6 years and each had three-vessel disease. A prospective study by Wilson et al[5] with 553 abdominal duplex ultrasound

examinations showed that 97 patients (17.5%) had mesenteric artery stenosis; 83 (15%) had isolated CA stenosis, 5 (0.9%) had isolated SMA stenosis, and 7 (1.3%) had combined CA and SMA stenosis. None developed mesenteric ischemia over mean follow-up time of 6.5 years. A recent single-center retrospective study by Bordet et al[6] showed that patients with two- or three-vessel stenosis were more prone to develop mesenteric ischemia compared with patients with single-vessel stenosis over a median follow-up time of 39 months. They compared 24 patients with ≥70% SMA stenosis with 53 patients with two- or three-vessel stenosis; acute mesenteric ischemia (AMI) occurred in 5 patients (6.5%) at median of 33 months and chronic mesenteric ischemia (CMI) in 3 patients (3.9%) at a median of 88 months.

Although these data on the prevalence of mesenteric artery stenosis and its natural history in the general population exist, the prevalence of a hemodynamically significant mesenteric artery stenosis in elderly patients with acute abdominal pain remains largely unknown. Nevertheless, it is a relatively common diagnostic problem for emergency room clinicians.[7] The primary aims of this study were to determine the prevalence of atherosclerotic mesenteric artery stenosis among elderly patients with acute abdominal pain and to examine how many of those patients had AMI at presentation or developed symptomatic mesenteric ischemia later during follow-up. A secondary aim was to identify possible risk factors for the presence of a mesenteric artery stenosis in elderly patients with acute abdominal pain.

ARTICLE HIGHLIGHTS

- **Type of Research:** Single-center retrospective cohort study
- **Key Findings:** Of 500 patients aged ≥65 years presenting with acute abdominal pain, 123 (25%) were found to have mesenteric artery stenosis; 40 patients (8%) had two- or three-vessel disease. Acute mesenteric ischemia developed in 14 patients (2.8%), of whom 12 had a multivessel disease.
- **Take Home Message:** Mesenteric artery stenosis is relatively common in elderly patients presenting with acute abdominal pain. Although acute mesenteric ischemia was infrequent, it occurred in approximately one-third of patients with multivessel disease.

METHODS

This single-center retrospective cohort study was conducted in an academic teaching hospital in Eastern Finland that serves as the sole provider of all levels of hospital care within the health care district (a catchment area of approximately 254,000 inhabitants). All patients with acute abdominal pain within the region are treated in the study hospital. The study was approved by the local institutional review board; the need for patient informed consent was waived. Consecutive patients admitted to the emergency department between January 2013 and May 2014 owing to acute abdominal pain who were ≥65 years and underwent contrast-enhanced abdominal computed tomography (CT) scans in the emergency room were included in the study. A total of 500 patients were included. The patients were searched from the hospital database using the Nordic Medico-Statistical Committee codes (JN3BD, JN3AD, JN3CD, JN1AD, JN1BD, and JN1CD). Patient characteristics, cardiovascular risk factors, comorbidities, and medications were extracted from the medical records. Patients were followed until death or August 2025. Death, recurrent AMI, and development of symptomatic mesenteric ischemia during the follow-up were recorded.

All patients underwent abdominal CT scan with a Siemens SOMATOM Definition AS. All CT examinations were reevaluated retrospectively by a single interventional radiologist regarding atherosclerotic stenosis or occlusion in the CA, the SMA, and the IMA using a multiplanar reformatting tool. All measurements were performed perpendicular to the long axis of the target vessel. Stenosis in the CA and the IMA was classified as either present or absent if a reduction of >50% in the diameter was observed. The SMA stenosis was assessed using a four-stage grading system: <50%, 50% to 69%, 70% to 89%, and 90% to 100%. In cases where the CT quality was insufficient for accurate stenosis evaluation, or when the classification of a stenosis fell into a borderline category, the lower grade was assigned. Embolic AMI was defined as an oval-shaped clot in the SMA or CA in contrast-enhanced CT scan without an underlying calcified stenosis. Thrombotic AMI was defined as a calcified stenosis or occlusion with a superimposed thrombotic clot in the SMA with an appropriate acute clinical presentation.[8]

The main outcomes of interest were the prevalence of mesenteric artery stenosis and how many of those with stenosis presented with AMI at index hospitalization, and further, how many developed symptomatic mesenteric ischemia later during the follow-up. Secondarily, risk factors for mesenteric artery stenosis were analyzed.

Statistical analyses. SPSS Statistics 29.0 was used for statistical analyses. R version 4.4.2 and R Studio 2024.12.0 Build 467 was used for Kaplan-Meier analysis and graphical illustrations. Continuous variables were expressed as mean ± standard deviation. The Mann-Whitney *U* test was used for nonparametric data and the Fischer's exact test for nominal data. Risk factors for the presence of mesenteric artery stenosis was assessed

using logistic regression analysis. Variables that had a statistically significant ($P < .05$) association with the presence of mesenteric artery stenosis in the univariable analysis were included in the multivariable analysis to identify independent risk factors for mesenteric artery stenosis. Thirty-day mortality was presented as crude rate and the Kaplan-Meier method was used to estimate long-term survival.

RESULTS

Of 500 patients aged ≥65 years, 123 (25%) had mesenteric artery stenosis. Lesion location, severity, and their association with the presentation of AMI are presented in Table I. Fifty-nine patients (12%) had ≥50% stenosis of the SMA; 28 (5.6%) had 50% to 69% stenosis and 31 (6.2%) had ≥70% stenosis or total occlusion of the SMA. In the 59 patients with SMA stenosis, a concomitant CA stenosis was recorded in 22 patients (37%), and 11 (19%) had three-vessel disease involving the SMA, CA, and IMA. Forty patients (8%) had multivessel stenosis (SMA + CA, SMA + IMA, CA + IMA or SMA + CA + IMA). The percentage of patients with mesenteric artery stenosis increased with age (Fig 1) in both males and females. The prevalence of SMA stenosis, specifically, increased with age in females but not in males (Fig 2). The prevalence of SMA stenosis was 22 of 319 (6.9%) among patients aged 65 to 79 years and 37 of 181 (20%) among patients aged ≥80 years. Fourteen patients presented with occlusive AMI; this was 2.8% of the 500 patients and 11% of 123 patients with mesenteric artery stenosis. There were 14 patients (2.8%) with isolated 50% to 69% mild stenosis of the SMA, of whom none had AMI at presentation. Nine patients (1.8%) had isolated ≥70% hemodynamically significant SMA stenosis, of whom two (22%) presented with AMI. There were 22 patients (4.4%) with concomitant SMA and CA stenosis with or without IMA stenosis, of whom 4 (18%) presented with AMI; the degree of SMA stenosis was 90% to 100% in all four cases. All 14 cases of AMI were of atherothrombotic etiology; atherosclerotic occlusion of the SMA with involvement of other mesenteric arteries (multivessel disease) in 13 patients and atherosclerotic occlusion of the CA and IMA in 1 patient. There were no cases of embolic AMI during the study period. Twelve of 40 patients (30%) with any combination of multivessel stenosis presented with AMI. The likelihood of AMI at presentation increased with the degree of SMA stenosis (with or without involvement of CA and IMA); only 1 of 28 patients (3.6%) with 50% to 69% SMA stenosis presented with AMI, whereas the corresponding numbers were 2 of 15 (13%) for 70% to 89% SMA stenosis and 10 of 16 (63%) for 90% to 100% SMA stenosis. In 31 patients with 70% to 100% SMA stenosis or occlusion (isolated or multivessel), which is generally considered as hemodynamically significant stenosis, 12 (39%) presented with AMI.

Table I. Prevalence of mesenteric artery stenosis (*MAS*) in patients aged 65 years or older with acute abdomen, stratified by presentation with or without acute mesenteric ischemia (*AMI*)

Affected arteries	Patients with MAS (n = 123/500 [25%])	MAS patients with AMI (n = 14/123 [11%])
CA stenosis	50 (10)	10/50 (20)
SMA stenosis	59 (12)	13/59 (22)
50%-69% stenosis	28 (5.6)	1/28 (3.6)
70%-89% stenosis	15 (3.0)	2/15 (13)
90%-100% stenosis	16 (3.2)	10/16 (63)
70%-100% stenosis	31 (6.2)	12/31 (39)
IMA stenosis	65 (13)	8/65 (12)
Isolated 50%-69% SMA stenosis	14 (2.8)	0/14 (0)
Isolated 70%-100% SMA stenosis	9 (1.8)	2/9 (22)
SMA + CA (with or without IMA) stenosis	22 (4.4)	4/22 (18)
Any two-vessel stenosis (SMA + CA, SMA + IMA or CA + IMA)	29 (5.8)	7/29 (24)
Any multivessel stenosis (SMA + CA, SMA + IMA, CA + IMA or SMA + CA + IMA)	40 (8.0)	12/40 (30)
Three-vessel stenosis (SMA, CA, and IMA)	11 (2.2)	5/11 (46)

CA, Celiac artery; *IMA*, inferior mesenteric artery; *SMA*, superior mesenteric artery.
Data are number (%).

Demographic characteristics and comorbidities in patients with or without mesenteric artery stenosis are summarized in Table II. None of the patients with incidental mesenteric artery stenosis had a prior record of mesenteric atherosclerosis or a history of abdominal symptoms consistent with CMI. Patients with stenosis were older (mean age, 80 ± 7.4 years vs 75 ± 7.6 years; $P < .001$) and had more often arterial hypertension (60% vs 71%; $P = .041$), atrial fibrillation (21% vs 45%; $P < .001$), coronary artery disease (28% vs 44%; $P = .001$), peripheral artery disease (2.7% vs 13%; $P < .001$), and chronic heart failure (9.8% vs 27%; $P < .001$). The use of warfarin (19% vs 45%; $P < .001$) and clopidogrel (1.3% vs 5.7%; $P < .012$) was more common in patients with mesenteric artery stenosis.

The independent risk factors for stenosis of mesenteric arteries were age (odds ratio [OR], 1.06; 95% confidence interval [CI], 1.03-1.10; $P < .001$), chronic heart failure (OR, 1.96; 95% CI, 1.04-3.71; $P = .04$), and peripheral artery disease (OR, 4.57; 95% CI, 1.83-11.38; $P = .001$). Female sex was an independent risk factor for SMA stenosis (OR, 2.22; 95% CI, 1.14-4.33; $P = .02$) (Table III). Body mass index

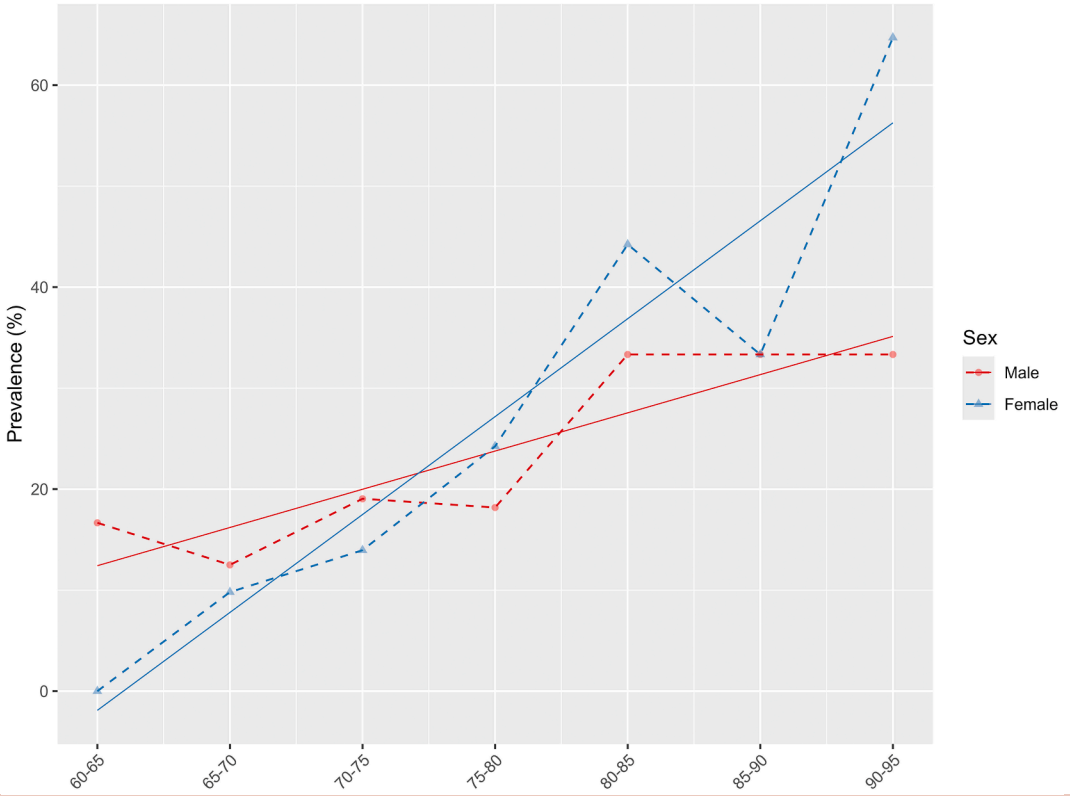

Fig 1. Prevalence of mesenteric artery stenosis in different age groups in males and females.

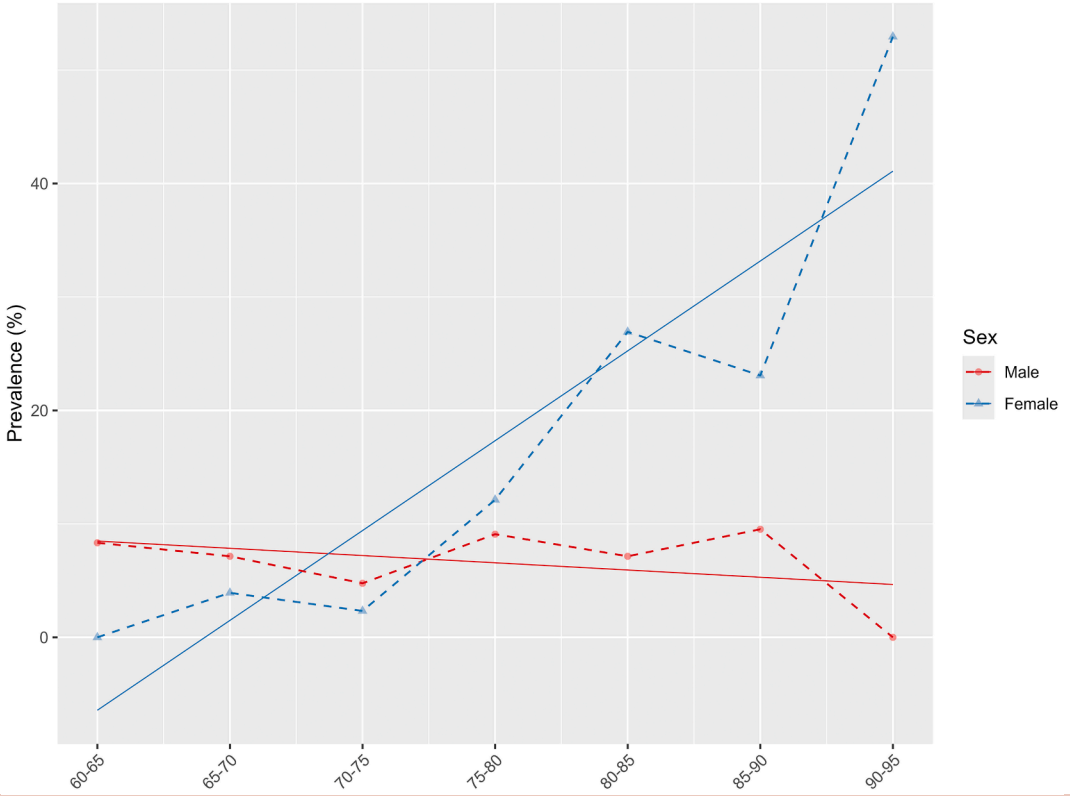

Fig 2. Prevalence of superior mesenteric artery (SMA) stenosis in different age groups in males and females.

Table II. Baseline characteristics of 500 patients aged 65 years or older with acute abdomen, stratified by presentation with or without mesenteric artery stenosis (*MAS*)

	Patients without MAS (n = 377 [75%])	Patients with MAS (n = 123 [25%])	*P* value
Age, years	75 ± 7.6	80 ± 7.4	<.001
Sex, female	202 (54)	75 (61)	.175
Comorbidities			
Hypertension	227 (60)	87 (71)	.041
Hyperlipidemia	136 (36)	34 (28)	.100
Diabetes	73 (19)	31 (25)	.200
Atrial fibrillation	80 (21)	55 (45)	<.001
Coronary artery disease	105 (28)	54 (44)	.001
Chronic heart failure	37 (9.8)	33 (27)	<.001
Cerebrovascular disease	42 (11)	21 (17)	.088
Peripheral artery disease	10 (2.7)	16 (13)	<.001
DVT	9 (2.4)	4 (3.3)	.532
COPD	14 (3.7)	11 (8.9)	.030
Malignancy	43 (11)	22 (18)	.088
BMI, kg/m^2	27.3 ± 5.3[a]	25.7 ± 5.7[a]	.029
Medication			
Anticoagulation	75 (20)	55 (45)	<.001
Warfarin	73 (19)	55 (45)	<.001
NOAC	1 (0.3)	0 (0.0)	1.000
Clopidogrel	5 (1.3)	7 (5.7)	.012
ASA	125 (33)	46 (37)	.444
Statins	160 (42)	54 (44)	.834

BMI, Body mass index; *COPD,* chronic obstructive pulmonary disease; *DVT,* deep vein thrombosis; *NOAC,* novel oral anticoagulants.
Data are mean ± standard deviation or number (%).
[a]Data are missing in 150 patients without and 64 with MAS.

was lower in patients with mesenteric artery stenosis (Table II), but it was not included in the multivariable analysis owing to the large proportion of missing data.

The 30-day mortality rates were 43% in patients with AMI and 17% in those without. Five-year survival estimates were 29% and 34%, respectively (Fig 3). All 14 cases of AMI were of atherothrombotic etiology. Ten patients were treated with endovascular stenting, of whom four required laparotomy and two underwent bowel resection. One patient without attempted revascularization underwent laparotomy first and massive bowel necrosis was found and deemed unresectable. Four patients were treated with conservative or palliative care. One of 109 patients (0.9%) with incidental mesenteric artery stenosis (ie, no AMI at presentation) developed symptomatic mesenteric ischemia during the mean follow-up of 4.0 ± 4.1 years. The one patient initially had a CA stenosis, and after 9.2 years, AMI occurred owing to atherothrombotic occlusion of the SMA. Stenting of SMA was performed, but further interventions were waived owing to the patient's old age and poor overall condition; the patient died the day after. In patients with AMI at presentation, two (14%) were readmitted owing to recurrent AMI during the follow-up.

DISCUSSION

AMI is one of the most difficult diagnoses in the spectrum of acute abdomen and atherosclerosis is one of the most prevalent diseases in the elderly population. This study demonstrated that one-fourth of patients aged ≥65 years who presented with acute abdominal pain and underwent CT examination in the emergency room had a mesenteric artery stenosis. The SMA, being the most important vessel for intestinal blood flow, was affected in 12% of all patients and 20% of patients aged ≥80 years. Both the SMA and the CA, the two most important mesenteric arteries, were simultaneously obstructed in 4.4%, whereas any combination of multivessel stenosis was present in 8.0%. This finding gives an idea of the magnitude of the clinical problem. Advanced age, peripheral artery disease, chronic heart failure, and female sex were independent risk factors for mesenteric artery stenosis in the study cohort. Regarding the clinical consequence of SMA stenosis on a CT scan of a patient with acute abdomen, an isolated

Table III. Multivariable analysis of risk factors for mesenteric artery stenosis (MAS) in 500 patients aged 65 years or older with acute abdomen

	P value	OR	95% CI
Any stenosis			
Age	<.001	1.063	1.029-1.099
Chronic heart failure	.038	1.961	1.038-3.705
PAD	.001	4.566	1.832-11.380
SMA stenosis			
Age	.007	1.062	1.016-1.109
Sex, female	.020	2.218	1.135-4.333
PAD	.015	3.544	1.285-9.775
Three-vessel stenosis			
Age	.047	1.105	1.002-1.220
Chronic heart failure	.024	7.038	1.295-38.247
PAD	.015	8.988	1.539-52.506

CI, Confidence interval; *OR*, odds ratio; *PAD*, peripheral artery disease; *SMA*, superior mesenteric artery.

mild stenosis (50%-69%) of the SMA was not associated with AMI. In contrast, a hemodynamically significant SMA stenosis or total occlusion (70%-100%) and a multivessel disease (SMA with involvement of other vessels) should raise the suspicion, because approximately one-third of these patients presented with AMI. However, only one of those patients who had an incidental mesenteric artery stenosis developed symptomatic mesenteric ischemia during the follow-up.

The prevalence of mesenteric artery stenosis in the elderly population is poorly known. In a study by Hansen et al,[1] based on duplex ultrasound examination of 553 Americans aged ≥65 years, the prevalence of isolated ≥70% CA stenosis was 15%, whereas isolated ≥70% SMA stenosis was registered in <1%; coexisting SMA and CA stenosis was present in 1.3%. Although the frequency of isolated CA stenosis in the Hansen study may be driven by median arcuate ligament compression, the percentage of patients with isolated SMA stenosis or concomitant SMA and CA stenosis, which are typically of atherosclerotic origin, seem low compared with the present study. One explanation could be that the study population in the present study is known to have a relatively high burden of atherosclerotic diseases.[9] Another potential explanation is that the age of the patients with mesenteric artery stenosis was older in the present study, and the prevalence of mesenteric artery stenosis increases with age. In a study by Roobottom and Dubbins,[10] based on duplex ultrasound examination, 18% of patients aged ≥65 years had mesenteric artery disease compared with a prevalence of 3% among patients aged <65 years. In the current study, the prevalence of SMA stenosis was 6.9% among patients aged 65 to 79 years and 20% among patients aged ≥80 years. It has been clearly shown in other vascular beds that the prevalence of atherosclerosis increases with aging.[11-13] Whether the prevalence of mesenteric artery stenosis is higher in patients with acute abdominal pain than in the general population of the same age remains unknown.

Peripheral artery disease was independently associated with the risk of mesenteric artery stenosis in this study cohort. It appeared as the most significant single risk factor for the presence of SMA, three-vessel, or any mesenteric artery stenosis. Other independent risk factors were age, female sex, and chronic heart failure. Atrial fibrillation was more common in patients with mesenteric artery stenosis compared with patients without. This was likely due to patients with mesenteric artery disease being older and having more cardiovascular comorbidity. Atrial fibrillation is associated with embolic AMI and >60% of patients with embolic AMI present with atrial fibrillation.[8] However, the incidence of embolic AMI is sporadic, and there were no such cases during the 17-month data inclusion period in the present study. Warfarin use was prominent in patients with mesenteric artery stenosis, which may be attributed to the heavy burden of comorbidities in these patients. The risk factor profile resembles other atherosclerotic diseases, such as coronary artery disease, cerebrovascular disease, and peripheral artery disease.[14] Interestingly, however, according to Veenstra et al,[15] patients afflicted with CMI appear to have lower prevalence of hypertension, hyperlipidemia, diabetes, and overweight compared with atherosclerotic diseases in other vascular beds. Female gender predominates among patients with mesenteric ischemia, contrary to other manifestations of atherosclerosis.[3,14-18] It has been speculated that females living longer could be the reason for this finding, because the incidence of mesenteric ischemia peaks after age of 75 to 80 years.[8] In this study, no sex differences were observed in patients with or without mesenteric artery stenosis.

One-third of the patients with multivessel mesenteric artery stenosis presented with AMI in this study. However, during subsequent follow-up, we observed only one later occurrence of symptomatic mesenteric ischemia in patients with incidental mesenteric artery stenosis. In the previous study by Thomas et al,[2] only those patients with severe three-vessel stenosis progressed to later mesenteric ischemia developing in 4 of 15 patients. In contrast, in the study by Wilson et al,[5] which included 97 patients with mesenteric artery stenosis and a longer follow-up, none developed mesenteric ischemia during the follow-up. However, none of the Wilson's study patients had three-vessel stenosis and only a few had two-vessel stenosis.[5] The same observation was recently made by Bordet et al[6]; no patient with single-vessel stenosis developed ischemia, although contrary to the above-mentioned two studies, patients with two-vessel stenosis developed symptomatic mesenteric ischemia;

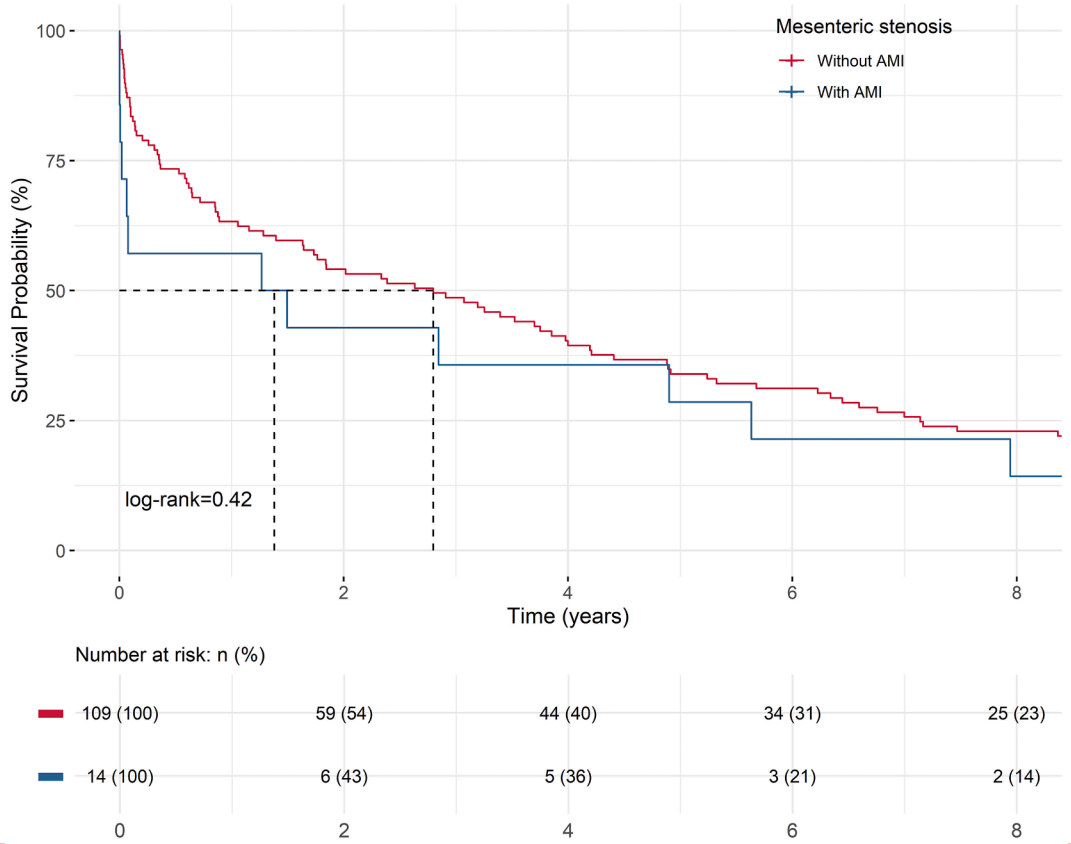

Fig 3. Survival of patients with mesenteric artery stenosis with or without acute mesenteric ischemia (*AMI*). *Dashed lines* represent the timepoints when 50% of patients with or without AMI were alive.

in cases of AMI, two of five patients had two-vessel stenosis and in cases of CMI, two of three. A very recent study by Harish et al[19] followed 43 patients with asymptomatic >70% stenosis of the CA or SMA for a mean of 2.6 years; none developed symptomatic mesenteric ischemia. An isolated mild stenosis (50%-69%) of the SMA alone is unlikely to have a significant impact on mesenteric blood flow and rarely causes any abdominal symptoms. However, with the presence of CA and IMA occlusion, even a mild SMA stenosis may be hemodynamically significant.[20]

The question of prophylactic revascularization of mesenteric artery disease pops up once in a while in the literature. Prophylactic revascularization is mostly unnecessary because the development of incidental mesenteric artery stenosis into symptomatic disease seems to be rare (with the possible exception in the case of a severe multivessel mesenteric artery disease). However, a recent study by the Dutch Mesenteric Ischemia Study Group demonstrated that >50% asymptomatic SMA stenosis contributed to a six times higher risk of anastomotic leak in colorectal surgery.[21] The study group is preparing a prospective randomized study: ALPrES2MA (Anastomotic leakage prevention by endovascular stenting of the superior mesenteric artery). Patients will be randomized to either endovascular stenting of an asymptomatic SMA stenosis or no stenting before elective colon resection.

Twenty-nine patients (40%) with mesenteric stenosis died during the study by Thomas et al,[2] with mean survival of 1.9 years. Cardiovascular causes played a major role as a cause of death and only one death resulted from AMI. Four of the five AMI patients were managed with palliative care in the study by Bordet et al,[6] and one of the three CMI patients died. There was no major difference between single- and multivessel stenosis regarding mortality, and AMI was the cause of death in 5.2% of cases. The 5-year survival rate was 45%, with no significant difference between these two groups. We observed the same outcome, although our 5-year survival was approximately 30%. It seems that although AMI has a strong impact on short-term mortality, other comorbidities play a more substantial role in the high mortality rate during subsequent years.[2,22]

Limitations and strengths. There are a few limitations related to the retrospective nature of this study. Body mass index was missing in a significant portion in both groups and was, therefore, excluded from the multivariable analysis. Smoking was not reported because of

insufficient data. Our study population was selected based on age and the presenting symptom of acute abdominal pain. Therefore, the prevalence of mesenteric artery stenosis may not be the same in the general population. Despite these limitations, to our knowledge, this study is the first to report the prevalence of mesenteric artery stenosis based on CT scans in patients with acute abdominal pain. All CT scans were reevaluated by a single interventional radiologist, ensuring consistency in the imaging assessment. Because the study institution was the sole provider of surgical care within the study population, we were able to catch recurrent cases of mesenteric ischemia. However, if a patient died outside the hospital without an autopsy, a possible case of AMI could have been missed.

CONCLUSIONS

Mesenteric artery stenosis was observed in one-fourth of elderly patients with acute abdomen and should be suspected, especially in patients with peripheral artery disease and other cardiovascular comorbidities. AMI is infrequent among patients with single mesenteric artery stenosis although the risk increases with the degree of stenosis. In case of hemodynamically significant (≥70%) SMA stenosis with involvement of other mesenteric arteries (a multivessel disease), AMI can occur in approximately one-third of elderly patients with acute abdomen. Later occurrence of symptomatic mesenteric ischemia seems to be rare in patients with incidental mesenteric artery stenosis.

AUTHOR CONTRIBUTIONS

Conception and design: PP, EP, EB, SV, JKa, PS, MU, JMK
Analysis and interpretation: PP, MU, JMK
Data collection: PP, EP
Writing the article: PP, JMK
Critical revision of the article: PP, EP, EB, SV, JKa, PS, MU, JMK
Final approval of the article: PP, EP, EB, SV, JKa, PS, MU, JMK
Statistical analysis: PP
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Overall responsibility: JMK
MU and JMK contributed equally to this article and share senior authorship.

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DISCLOSURES

None.

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