

DIE DEUTSCHEN UNIVERSITÄTSKLINIK



Is superior mesenteric artery stenting justified for asymptomatic patients?

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Disclosures

Nothing to disclose

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Anatomy of the mesenteric circulation







Chronic SMA occlusion

Gastro-duodenal and pancreatico-duodenal collaterals



Riolan and marginal artery collaterals via the IMA



Is superior mesenteric artery stenting justified for asymptomatic patients?

 ...around 1% of all pts with an acute abdomen have arterial AMI. The incidence increases exponentially with age and AMI is the cause of acute abdomen in up to 10% of patients aged over 70 years (ESVS 2017)

Natural history of SMA stenosis?

What do guidelines say?



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Aorta and Major Branches

Eur J Vasc Endovasc Surg (2021) 61, 810-818

Natural History of Asymptomatic Superior Mesenteric Arterial Stenosis Depends on Coeliac and Inferior Mesenteric Artery Status

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WHAT THIS PAPER ADDS

The latest European Society for Vascular Surgery recommendations for the management of asymptomatic superior mesenteric artery (SMA) stenosis remain unclear, based on the lack of data in the literature on the natural history of the SMA. This study confirms Mikkelsen's law — isolated SMA stenosis is associated with a low risk of mesenteric ischaemia. Patients with SMA stenosis associated with coeliac artery and/or inferior mesenteric artery seem to have a higher risk of developing mesenteric ischaemia. Considering the low life expectancy of these patients, optimisation of medical treatment is essential. The role of preventive revascularisation remains to be defined for patients with non-isolated SMA stenosis.

Objective: The benefit of preventive treatment for superior mesenteric artery (SMA) stenosis remains uncertain. The latest European Society for Vascular Surgery (ESVS) guidelines remain unclear given the lack of data in the literature. The aim of this study was to evaluate asymptomatic SMA stenosis prognosis according to the presence of associated coeliac artery (CA) and/or inferior mesenteric artery (IMA) stenosis.

Methods: This was a single academic centre retrospective study. The entire computed tomography (CT) database of a single tertiary hospital was reviewed from 2009 to 2016. Two groups were defined: patients with isolated > 70% SMA stenosis (group A) and patients with both SMA and CA and/or IMA > 70% stenosis (group B). Patient medical histories were reviewed to determine the occurrence of mesenteric disease (MD) defined as development of acute mesenteric ischaemia (AMI) or chronic mesenteric ischaemia (CMI).

Results: Seventy-seven patients were included. Median follow up was 39 months. There were 24 patients in group A and 53 patients in group B. In group B, eight (10.4%) patients developed MD with a median onset of 50 months. AMI occurred in five patients with a median of 33 months and CMI in three patients with a median of 88 months. Patients of group B developed more MD (0% vs. 15.1%; p = .052). The five year survival rate was 45% without significant difference between groups.

Conclusion: Patients with SMA stenosis associated with CA and/or IMA seem to have a higher risk of developing mesenteric ischaemia than patients with isolated SMA stenosis. Considering the low life expectancy of these patients, cardiovascular risk factor assessment and optimisation of medical treatment is essential. Preventive endovascular revascularisation could be discussed for patients with non-isolated > 70% SMA stenosis, taking into account life expectancy.

- Retrospective single-center study, 2009-2016
- 77 pts with isolated >70% SMA stenosis
 - 24 pts with isolated >70% SMA stenosis (group A in blue)
 - 53 pts. combined >70% SMA + CA +/- IMA stenosis (group B, red)

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Median follow-up of 39 months

10.4% of group B pts developed

- AMI (5 pts)
- CMI (3 Pts)

After a median FU of 50 mo.

5 yr survival was just 45%!







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Natural history of SMA stenosis

No prospective series exist !!

What do guidelines say?

Eur J Vasc Endovasc Surg (2017) 53, 460–510

2017

Editor's Choice – Management of the Diseases of Mesenteric Arteries and Veins

Clinical Practice Guidelines of the European Society of Vascular Surgery (ESVS)

M. Björck ^a, M. Koelemay ^a, S. Acosta ^a, F. Bastos Goncalves ^a, T. Kölbel ^a, J.J. Kol G. Oderich ^a,

ESVS Guidelines Committee^b, P. Kolh, G.J. de Borst, N. Chakfe, S. Debus, R. Hinc M. Vega de Ceniga, F. Vermassen, F. Verzini, Document Reviewers^c, B. Geelkerken, P. Gloviczki, T. Huber, R. Naylor SOCIETY FOR VASCULAR SURGERY PRACTICE GUIDELINES

Chronic mesenteric ischemia: Clinical practice guidelines from the Society for Vascular Surgery

Thomas S. Huber, MD, PhD,[®] Martin Björck, MD,^b Ankur Chandra, MD,^c W. Darrin Clouse, MD,^d Michael C. Dalsing, MD,[®] Custavo S. Oderich, MD,^f Matthew R. Smeds, MD,⁹ and M. Hassan Murad, MD, MPH,^h *Gainesville, Fia: Uppsala, Sweden: La Jolla, Calif; Charlottesville, Va: Indianapolis, Ind; Houston, Tex: St. Louis, Mo; and Rochester: Minn*

2020

Check for updates

ABSTRACT

Background: Chronic mesenteric ischemia (CMI) results from the inability to achieve adequate postprandial intestinal blood flow, usually from atherosclerotic occlusive disease at the origins of the mesenteric vessels. Patients typically present with postprandial pain, food fear, and weight loss, although they can present with acute mesenteric ischemia and bowel infarction. The diagnosis requires a combination of the appropriate clinical symptoms and significant mesenteric artery occlusive disease, although it is often delayed given the spectrum of gastrointestinal disorders assoclated with abdominal pain and weight loss. The treatment goals include relieving the presenting symptoms, preventing progression to acute mesenteric ischemia, and improving overall quality of life. These practice guidelines were developed to provide the best possible evidence for the diagnosis and treatment of patients with CMI from atherosclerosis.

Methods: The Society for Vascular Surgery established a committee composed of vascular surgeons and individuals experienced with evidence-based reviews. The committee focused on six specific areas, including the diagnostic evaluation, indications for treatment, choice of treatment, perioperative evaluation, endovascular/open revascularization, and surveillance/remediation. A formal systematic review was performed by the evidence team to identify the optimal technique for revascularization. Specific practice recommendations were developed using the Grading of Recommendations Assessment, Development, and Evaluation system based on review of literature, the strength of the data, and consensus.

Results: Patients with symptoms consistent with CMI should undergo an expedited workup, including a computed tomography arteriogram, to exclude other potential causes. The diagnosis is supported by significant arterial occlusive disease in the mesenteric vessels, particularly the superior mesenteric artery. Treatment requires revascularization with the primary target being the superior mesenteric artery. Endovascular revascularization with a balloon-expandable covered intraluminal stent is the recommended initial treatment with open repair reserved for select younger patients and those who are not endovascular candidates. Long-term follow-up and surveillance are recommended after revascularization and for asymptomatic patients with severe mesenteric occlusive disease. Patient with recurrent symptoms after revascularization owing to recurrent stenoses should be treated with an endovascular-first approach, similar to the de novo lesion.

Conclusions: These practice guidelines were developed based on the best available evidence. They should help to optimize the care of patients with CMI. Multiple areas for future research were identified. (J Vasc Surg 2021;73:87S-115S.)

2020

ueg journal

European guidelines on chronic mesenteric ischaemia – joint United European Gastroenterology, European Association for Gastroenterology, Endoscopy and Nutrition, European Society of Gastrointestinal and Abdominal Radiology, Netherlands Association of Hepatogastroenterologists, Hellenic Society of Gastroenterology,

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> United European Gatmenterology Journ 2020, Vol. 8(4) 371-395 (2) Anthol 5(3) 2020 Article reuse guidelines: sappub.com/journals permissions DOI: 10.1177/20504/95/20201661 journals.sappub.com/home/wej. \$\$\$AGE

nd Interventional iety of Europe, and Dutch mia Study group clinical diagnosis and treatment chronic mesenteric

iaan Moelker², Jan Abrahamsen³, 1kker^{6,7}, Iris Baumgartner⁶, Louis Boyer⁹, D van Dijk¹ [©], Mansur Duran¹¹, [©], Giulio Illuminati¹⁴, M Kärkkäinen^{16,17}, ars Lönn²⁰, Maria A Mazzei²¹, - Percoraro²³ Ian Baumach²⁴

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ESVS 2017:	Grade	LoE	
In patients with otherwise unexplained abdominal symptoms, and occlusive disease of two or three mesenteric arteries, chronic mesenteric ischeaemia (CMI) should be considered to be the cause of the symptoms	lla	С	
Multidisc Europ GL (2020)	Grade	LoE	
 Revascularizationin asymptomatic patients with significant stenosis/ occlusion of all three mesenteric vessels should only be performed after carefully weighing the risks and benefits of treatment, given the low LoE 	2D		
In asymptomatic pts with significant stenosis/occlusion of 2 or more mesenteric vessels who need to undergo major abdominal surgery with potential ligation of collateral circulation, endoyasc intervention may be			

•	In asymptomatic pts with significant stenosis/occlusion of 2 or more mesenteric vessels who need to undergo		
	major abdominal surgery with potential ligation of collateral circulation, endovasc intervention may be		
	considered to prevent occurrence of AMI.	2D	

SVS GL on chronic mesenteric ischemia (2020) and AAA guideline (2018)		Grade	LoE
•	In select asymptomatic patients with severe mesenteric artery occlusive disease (MAOD) , we suggest a shared decision-making approach between the patient and provider to discuss revascularization as a treatment option.	Grade 2 (Weak)	C (Low)
•	We recommend that asymptomatic patients with severe MAOD be closely followed for symptoms consis-tent with CMI. A possible FU schedule includes an annual evaluation with a mesenteric DUS examination	Grade 1 (Strong)	C (Low)
•	In select patients with asymptomatic recurrent stenosis, we suggest a shared decision-making approach between the patient and provider to discuss revascularization as recommended for the de novo lesions	Grade 2 (Weak)	C (Low)
•	Prophylactic treatment of asymptomatic, high-grade stenosis of the SMA in the presence of a meandering mesenteric artery based off a large IMA, which will be sacrificed during the course of treatment.		

74 yrs, male, 90% asymptomatic SMA stenosis with insufficient collaterals – elective stenting



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Is superior mesenteric artery stenting justified for asymptomatic patients?

Open research questions

The natural history of SMA stenosis is completely underinvestigated

Clinical/morphological subgroups with a high risk of AMI or CMU have to be defined

• Which measures are effective to prevent AMI or CMI in pats with SMA stenosis?



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Conclusions

Preventive SMA revasc might be reasonable in pts without good collaterals

Endovascular therapy is the first-line treatment in these selected pts



Thank you very much

H.-H. Eckstein



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December | Klinikum rechts der Isar | Munich | Germany

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