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International Cross Sectional Survey on Management of Mesenteric Arterial Ischaemia and Renal Artery Stenosis from the European Visceral Artery Revascularisation Study Participants

Nicola Leone, Mario D'Oria, Georgios Antoniou, Mark J. Koelemay, Jorg L. De Bruin, Sonia Ronchey, Giovanni F. Baresi, Desiree van Noord, Alexander Gombert, Stefano Gennai, on behalf EVISAR Study Survey Participants

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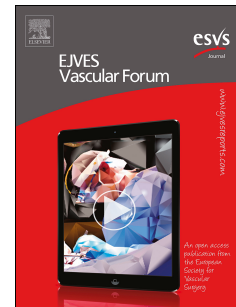
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<DOC>**ORIGINAL RESEARCH**

<AT>**International Cross Sectional Survey on Management of Mesenteric Arterial Ischaemia and Renal Artery Stenosis from the European Visceral Artery Revascularisation Study Participants**

<AU>**Nicola Leone ^{a,*}, Mario D’Oria ^b, Georgios Antoniou ^{c,d}, Mark J. Koelemay ^e, Jorg L. De Bruin ^f, Sonia Ronchey ^g, Giovanni F. Baresi ^a, Desiree van Noord ^{h,i}, Alexander Gombert ^j, Stefano Gennai ^a, on behalf of the EVisAR Study Survey Participants[†]**

<AFN>^a Department of Vascular Surgery, Ospedale Civile di Baggiovara, Azienda Ospedaliero-Universitaria di Modena, University of Modena and Reggio Emilia, Modena, Italy

^b Division of Vascular and Endovascular Surgery, Department of Medical Surgical and Health Sciences, University of Trieste, Trieste, Italy

^c Manchester Vascular Centre, Manchester University NHS Foundation Trust, Manchester, UK

^d Division of Cardiovascular Sciences, School of Medical Sciences, Manchester Academic Health Science Centre, The University of Manchester, Manchester, UK

^e Department of Surgery, Amsterdam Cardiovascular Sciences, Amsterdam UMC, Amsterdam, The Netherlands

^f Department of Vascular Surgery, Erasmus University Medical Centre, Rotterdam, The Netherlands

^g Department of Vascular Surgery, AUSL Roma 1 - San Filippo Neri Hospital, Rome, Italy

^h Department of Gastroenterology and Hepatology, Franciscus Hospital, Rotterdam, The Netherlands

ⁱ Department of Gastroenterology and Hepatology, Erasmus Medical Centre, Rotterdam, The Netherlands

^j Department of Vascular Surgery, University Hospital, RWTH Aachen, Aachen, Germany

<COR>* Corresponding author. Department of Vascular Surgery, Ospedale Civile di Baggiovara, Azienda Ospedaliero-Universitaria di Modena, University of Modena and Reggio Emilia, Via Giardini, 1355, 41126 Baggiovara, Modena, Italy.

E-mail address: nicola.leone@unimore.it.

<ARTFN>† A list of the authors in the EVisAR Study Survey Participants is included in Appendix A.

Highlights

- Management of visceral occlusive diseases is highly heterogeneous.
- Endovascular approaches are the dominant treatment choice.
- Revascularisation is rarely required, resulting in low annual caseloads.
- A significant lack of consensus on follow up strategies exists.

<BEGIN ABSTRACT>

Objective: The European Visceral Artery Revascularization (EVisAR) Study initiative (ClinicalTrials.gov NCT06913530) is an ambispective study focusing on long term outcomes of visceral arterial diseases. Despite recent advances, optimal management remains uncertain owing to limited and fragmented evidence. The present survey aimed to assess the current clinical practices of EVisAR participants.

Methods: All 107 EVisAR physicians were invited. The survey covered chronic mesenteric ischaemia (CMI), acute mesenteric ischaemia (AMI), and renal artery stenosis (RAS), focusing on diagnostic pathways, indications for intervention, treatment preferences, and follow up strategies. Responses were analysed descriptively, and inter-rater agreement was assessed using the Fleiss κ method (agreement: ≥ 0.80 almost perfect, $0.60 - 0.79$ substantial, $0.40 - 0.59$ moderate, $0.20 - 0.39$ fair, and < 0.20 poor).

Results: Sixty four (60%) EVisAR physicians' responses were obtained. Vascular surgeons (98%) from university hospitals (84%) were predominant. Less than ten cases/y were treated by 62%, 78%, and 83% of participants for CMI, AMI, and RAS, respectively. Endovascular treatment was preferred, especially in elderly, obese, and comorbid patients. For CMI, the thresholds for intervention varied widely ($\kappa = 0.23$), and endovascular stenting was preferred (95%). In AMI, revascularisation through aspiration thrombectomy followed by damage control surgery was the predominant strategy (73%). RAS was primarily managed medically (95%); revascularisation was reserved for resistant hypertension or worsening renal function, with a nearly universal preference for endovascular techniques (98%). CMI had the least concordance ($\kappa = 0.36$, 95% CI $0.28 - 0.44$); moderate agreement was found for AMI and RAS, with κ values of 0.46 (95% CI $0.35 - 0.57$) and 0.41 (95% CI $0.28 - 0.54$), respectively. Follow up strategies had the lowest degree of concordance for each pathology (CMI, 0.27 ; AMI, 0.13 ; and RAS, 0.19).

Conclusion: This survey revealed substantial heterogeneity in the management of CMI, AMI, and RAS. Consensus is lacking, particularly regarding follow up strategies. These findings highlight the need for better quality data to refine clinical practice.

<END ABSTRACT>

<KW>**Keywords:** Acute mesenteric arterial thrombosis, Mesenteric ischaemia, Mesenteric vascular insufficiency, Occlusive mesenteric arterial ischaemia, Renovascular hypertension.

<BEGIN ARTICLE>

<H1>INTRODUCTION

Occlusive pathologies of the visceral arteries encompass a wide spectrum of conditions involving the mesenteric and renal arteries. The incidence of visceral artery pathology requiring open surgical or endovascular management is notably low, with estimated rates of 1.4/100,000 persons/y and 3.7/100,000 persons/y for chronic and acute mesenteric ischaemia (AMI), respectively.¹⁻³ The extensive use of imaging methods, increase in atherosclerotic burden, and ageing of the population have led to an increase in their observation whether clinically evident or not.¹ Furthermore, visceral artery pathologies present a significant concern in vascular surgery because management is complicated, and they can lead to severe, potentially life-threatening, clinical scenarios.^{4,5} Despite significant improvements in treatment outcomes over the last few decades, the acute presentation of visceral artery pathologies is still associated with high mortality rates.^{2,6}

The literature regarding visceral artery pathologies is still fragmented and limited, with most studies comprising small series or high volume single centre experience.^{7,8} Moreover, existing meta-analyses are constrained by the inclusion of studies conducted during the early endovascular era.^{2,7,8} In addition, renal artery stenosis (RAS), which has been investigated in several randomised controlled trials, lacks data regarding (1) subgroups benefitting more from intervention, (2) usefulness of dual antiplatelet therapy (DAPT), (3) best follow up protocol, and (4) long term data following intervention.⁹⁻¹¹

The European Society for Vascular Surgery (ESVS) recently published an updated version of the Clinical Practice Guidelines on the management of the diseases of the mesenteric and renal arteries and veins.⁹ However, the writing committee underscored the lack of high level studies, which hindered the level and grade of the recommendations.

The European Visceral Artery Revascularization (EVisAR) study was recently launched to fill the knowledge gap regarding these pathologies. This international multicentre ambispective study aimed to evaluate the long term outcomes of visceral artery revascularisation for both occlusive and aneurysmal pathologies of the visceral and renal vessels. As part of this broader effort, an online cross sectional survey was conducted among the EVisAR study participants to investigate their current diagnostic and therapeutic strategies for occlusive pathologies of the

mesenteric and renal arteries. This study aimed to provide insights into contemporary practices within a network of surgeons actively engaged in managing these challenging conditions.

<H1>METHODS

<H2>Study design

This was an international, single round, cross sectional survey conducted among physicians participating in the EVisAR Study (ClinicalTrials.gov NCT06913530). The study was conducted in compliance with the Checklist for Reporting Of Survey Studies¹² (Supplementary Table S1). The online tool was developed using the REDCap online platform (Vanderbilt University, Nashville, TN, USA).¹³ The survey was initially developed by two authors (N.L. and G.F.B.), revised by a third author with survey questions construction expertise (M.D.), and further validated by running a pilot test with eight EVisAR steering committee members. The final formulation was approved by all committee members before submission to the panel. The instrument was provided in English only. Participation was voluntary and anonymous, with no monetary rewards, and only aggregated data were analysed.

EVisAR participants were enrolled voluntarily after an email invitation was sent in 2024. No selection criteria (such as academic status or institutional volume) were applied to the recipients. Invitations were also disseminated by the study investigators through the European Research Hub and European Vascular Research Committee. The study personnel did not have complete control over who received the invitations and how they were collected all expressions of interest. The online form was distributed via a mailing list of 107 practitioners participating in the EVisAR study.

The online survey was accessible to the EVisAR study participants over a 3 week period in March 2025, and weekly email reminders were sent to boost their participation. REDCap functions allowed personal, non-shareable email invitations to guarantee confidentiality and avoid uninvited recipients. In addition, the software excluded more than one survey submission per participant. The results were processed anonymously by the primary investigator. Ethical approval was not required because neither patient nor responders personal data were collected.

The questions were formulated based on the available literature, international guidelines, and clinical experience of the steering committee. The survey focused on the different stages of the diagnostic and therapeutic processes for acute and chronic occlusive pathologies of the

mesenteric and renal arteries. It was structured into three sections: chronic mesenteric ischaemia (CMI), AMI, and RAS. The survey instrument included questions on participant' demographics (country, specialty, years of experience, and institution type), diagnostic approaches, indications for intervention, preferred revascularisation techniques, follow up strategies after revascularisation, and use of medical therapy. There were 52 multiple choice and 33 open ended questions. The complete set of survey questions is presented in Supplementary Table S2. Data were independently extracted from the REDCap platform by two investigators (N.L. and G.F.B.), and open ended questions were reviewed to classify them into variable categories, as displayed in the results section. In cases of disagreement on how to classify open ended answers, consensus was reached through discussion with a third investigator (S.G.).

The primary aim was to investigate the current practices in the management of CMI, AMI, and RAS by establishing the degree of concordance among respondents within the three main sections. These were further stratified into three subsections: (1) diagnosis and therapeutic indication, (2) therapeutic strategies, and (3) follow up, including both clinical follow up and post-operative medical therapy. Responses were compared with the 2025 ESVS Guidelines,⁹ aiming to assess clinical practice consistency. Management flowcharts with green, orange, and red tags standing for full, partial, and non-consistency, respectively, are displayed in Figures XXX. Partial and non-consistency were defined as survey answers that partially or completely deviated from the guideline recommendations, respectively. No tag indicates that the topic was not covered by the guidelines, and bold characters indicate that >50% respondents agreed with the chosen management approach.

<H2>**Statistical analysis**

Data were analysed using Stata 18 software (StataCorp LLC, College Station, TX, USA). Categorical variables were described as frequencies and percentages, and continuous variables were expressed as mean and standard deviation, as per normally distributed variables. The proportions of questions with missing answers and those addressed to a specific subgroup (*e.g.*, consultants) were calculated for the subtotal of respondents. Inter-rater agreement was expressed by using the Fleiss κ -estimate interpreted as follows: ≥ 0.80 , almost perfect agreement; 0.60 – 0.79, substantial agreement; 0.40 – 0.59, moderate agreement; 0.20 – 0.39, fair agreement; and < 0.20 , poor agreement.^{14,15} Agreement was evaluated for the entire survey tool (overall),

subsections (CMI, AMI, and RAS), and specific items of each subsection, namely, “diagnosis and therapeutic indications,” “therapeutic strategies,” and “follow up indications.” Single stage convenience sampling was chosen considering two pillars: the qualitative and causal nature of the present work and the lack of previous surveys measuring agreement regarding the topic of interest.¹⁶ Given this, sample size calculation, survey follow up, items weighting, and inferential statistical tests were not performed.

<H1>RESULTS

<H2>Study participants

A total of 64 responses from 107 EViSAR participants (60% participation rate) were included in the analysis. Respondents' characteristics are listed in Table 1. Most respondents were from Italy (55%), and the remainder were homogeneously distributed across several European countries (97%), with the exception of two Australian physicians (3%). The participants were mostly identified as vascular surgeons (98%) serving university hospitals (84%). Overall survey agreement was moderate ($\kappa = 0.45$; Table 2).

<H2>Chronic mesenteric ischaemia

Most centres reported a low annual CMI caseload, with 63% reporting <10 cases/y. The most frequent routine diagnostic workup (66%) included clinical examination, duplex ultrasonography (DUS), and computed tomography angiography (CTA). Approximately 46% of physicians revascularised at any severity of stenosis, considering the presence of symptoms, whereas 33% and 17% preferred a 70% stenosis threshold in multivessel and single vessel diseases, respectively. Asymptomatic multivessel atherosclerotic disease (MAOD) was managed conservatively by 50% of participants. In addition, 46% believed that revascularisation may be considered in specific asymptomatic cases, such as before intestinal resection. The timing of revascularisation was most commonly dependent on the symptoms (50%). The endovascular approach was preferred, with the highest agreement in comorbid (88%), elderly (82%), obese (64%), and multivessel disease (63%) patients. Balloon expandable bare metal stents (36%) and balloon expandable stent grafts (25%) were preferred endovascular devices. Prosthetic bypass (53%) was the preferred open technique. Follow up after revascularisation most commonly included clinical and DUS assessments (56%) or clinical and CTA scans (39%), with a timing of

thirty days and annually thereafter in the majority of cases (41%). Irrespective of the revascularisation approach, 72% of the participants preferred specific post-operative medical therapy, including a short course of DAPT for 1 or 6 months, followed by single antiplatelet therapy (SAPT) in 32% and 52% of cases, respectively. The complete results of the responses to CMI management are presented in Supplementary Table S3. A flowchart summarising the surveyed physicians' preferred CMI management strategies and their consistency with the 2025 ESVS guidelines is shown in Figure 1.⁹

Fleiss κ estimation for the entire section was 0.36 (fair agreement), with the lowest concordance in the diagnostic and therapeutic indications ($\kappa = 0.23$, fair agreement) and the highest in the therapeutic strategies ($\kappa = 0.45$, moderate agreement).

<H2>***Acute mesenteric ischaemia***

A low caseload was reported for patients with AMI. Most frequently, centres reported <5 cases/y (35%) or 5 – 9 cases/y (44%). Clinical examinations, biomarkers, and CTA were the most common diagnostic workups (58%), with a minority including endoscopic examination (20%). Revascularisation followed by damage control surgery was the preferred surgical protocol (88%). The endovascular approach was preferred in comorbid (88%), elderly (86%), obese (67%), and multivessel disease (61%) patients. Aspiration thrombectomy with provisional angioplasty/stenting (80%) was the preferred endovascular approach, and locoregional thrombolysis was not performed by most respondents (53%). The preferred open approach was autologous vein bypass (31%). Follow up after revascularisation included clinical and CTA assessments (44%) at thirty days and annually thereafter in most cases (36%). Irrespective of the revascularisation approach, 75% of the participants preferred specific post-operative medical therapy, including a short DAPT course for 1 or 6 months, followed by SAPT (27% and 48%, respectively). Detailed answers to AMI diagnostic and therapeutic strategies are presented in Supplementary Table S4. A flowchart summarising the surveyed physicians' preferred AMI management scheme and its consistency with the 2025 ESVS guidelines is presented in Figure 2.⁹

Fleiss κ estimation for the entire section was 0.46 (moderate agreement), with the lowest concordance in the follow up indications ($\kappa = 0.13$, poor agreement) and the highest in the diagnosis and therapeutic indications ($\kappa = 0.54$, moderate agreement).

<H2>**Renal artery stenosis**

Most respondents reported <5 cases/y (53%) at their centres. DUS, followed by CTA/MRA, was the most commonly performed diagnostic workup (73%). Medical treatment was considered first line therapy in 95% of cases. The revascularisation thresholds were 70% stenosis in a single vessel (38%) and 70% stenosis bilaterally (48%). The indications for revascularisation included resistant hypertension (81%), resistant hypertension associated with end organ dysfunction (73%), and severe decline in renal function (55%). The endovascular approach was preferred as the first line revascularisation method (98%). Follow up after revascularisation most commonly included clinical, laboratory, and ultrasound assessments (77%), which were most frequently performed within thirty days and then annually (39%). Irrespective of the revascularisation approach, 56% of the participants preferred specific post-operative medical therapy, including a short DAPT course for 1 or 6 months, followed by SAPT (33% and 55%, respectively). Detailed answers to the RAS questionnaire are presented in Supplementary Table S5. A flowchart summarising the surveyed physicians' preferred RAS management scheme and its consistency with the 2025 ESVS guidelines is presented in Figure 3.⁹

Fleiss κ estimation for the entire section was 0.41 (moderate agreement), with the lowest concordance in the follow up indications ($\kappa = 0.19$, poor agreement) and the highest in the diagnosis and therapeutic indications ($\kappa = 0.39$, fair agreement).

<H1>**DISCUSSION**

The primary attributes of the present survey are the inclusion of chronic and acute diseases compared with a previously published survey,¹⁶ agreement analysis regarding clinical decision making, and consistency with the ESVS 2025 recommendations.⁹ Interestingly, most surveyed physicians were already practising in a manner consistent with the ESVS 2025 recommendations⁹ prior to their formal publication. Although this alignment may be partially influenced by the inclusion of six guideline committee members within the study cohort (9%), it primarily suggests that the guidelines codify a pre-existing clinical consensus among European centres. However, the limited exposure of individual practitioners to a high volume of cases likely contributes to the observed variations in practice patterns and institutional protocols.

For CMI, the diagnostic workup aligns with ESVS recommendations.⁹ However, the varying revascularisation thresholds, from any severity of stenosis with symptoms (46% of respondents) to 70% stenosis thresholds for multivessel or single vessel disease, demonstrated a clear divergence. This lack of a unified threshold suggests that individual clinical judgement often outweighs strict anatomical criteria. Again, EVISAR physicians mostly demonstrated clinical practice consistency with the ESVS guidelines,⁹ which recommend (grade 1B) revascularisation in symptomatic MAOD (Fig. 1). The present survey did not enquire whether single or multivessel disease represented a relevant parameter for treatment indication in symptomatic patients, hindering a sharper comparison (item #11, Supplementary Table S2). Nearly half of the participants managed asymptomatic MAOD conservatively, with some participants following new evidence that supports revascularisation prior to intestinal resection.¹⁷ The strong preference for endovascular approaches in elderly, comorbid, obese, and multivessel disease patients highlights a pragmatic shift towards less invasive interventions in high risk patients. This is corroborated by a meta-analysis by Nana *et al.*,¹⁸ who demonstrated the safety of the endovascular first approach for patients with CMI, as recommended in the ESVS 2025 guidelines.⁹ Regarding the technical strategy for CMI, the choice between single and multivessel revascularisation remains nuanced; although the majority of the study cohort (55%) favoured a selective approach based on patient anatomy, a routine multivessel strategy was significantly more common when an endovascular approach was chosen (28%) compared with open surgery (3%). Participants performed clinical and radiological follow up despite the clinical benefit and timing, as well as post-operative DAPT, being largely unknown.⁹

In AMI, the diagnostic triad of clinical examination, biomarkers, and CTA is widely accepted, with a non-negligible 20% of cases incorporating endoscopic examinations. However, this may not be applicable in all centres, and revascularisation should not be delayed. The predominant surgical strategy was revascularisation, followed by damage control surgery (overall, 88%). The endovascular first approach was recently confirmed as a viable option in a European publication of patients treated during a 15 year study period.¹⁹ The preferred endovascular approach was percutaneous arterial aspirational thrombectomy, and its superiority was recently suggested.^{20,21} Clinical practice has evolved rapidly, even though there is a lack of publications thoroughly comparing different endovascular techniques and proving the superiority of aspiration thrombectomy in a reliable manner. Approximately 16% of institutions admitted patients after

receiving exploratory laparotomy at peripheral hospitals; this proportion rose to 25% when considering those centralising patients who failed initial vascular and surgical treatment (e.g., exploratory laparotomy and embolectomy) at peripheral hospitals. This means that a non-negligible proportion of primary/secondary centres do not comply with the ESVS 2025 guidelines that recommend treating patients in centres with 24/7 multidisciplinary services and experience in both open and endovascular mesenteric artery revascularisation (grade 1C).⁹ These recommendations are likely to lead healthcare providers and physicians to introduce policy changes in the future. The EVISAR survey results suggest considering AMI and acute on CMI as different entities.

Medical treatment is overwhelmingly considered the first line therapy (95%) for RAS, highlighting its fundamental role. Of the survey participants, 23% had already included contrast enhanced ultrasound examination in their diagnostic protocol, as suggested in a recently issued recommendation in the ESVS 2025 guidelines.⁹ Revascularisation indications, predominantly for resistant hypertension (81%) and its association with end organ dysfunction (73%) or severe decline in renal function (55%), are largely consistent with clinical guidelines emphasising functional rather than purely anatomical indications for intervention.⁹ The preference for the endovascular approach as the first line revascularisation was almost unanimous (98%), most likely driven by its effectiveness and lower periprocedural risks than open surgery.

Consistent with the existing literature and as emphasised by the ESVS 2025 guidelines,⁹ a prominent finding was the observed variability in management approaches, highlighting the lack of widespread consensus on several critical management issues.

CMI management had the lowest degree of concordance (Fleiss $\kappa = 0.36$). This appears to be primarily attributable to the high level of societal disagreement in the initial assessment and diagnostic steps. Therapeutic strategies had the highest degree of concordance for each pathology, whereas follow up concordance was fair or low for AMI, CMI, and RAS. This also mirrors inconsistencies in comparative societal guidelines.^{9,22} For example, guidelines of the Society for Vascular Surgery suggest a biannual DUS for patients with CMI following revascularisation.²² However, the ESVS writing committee apparently could not find relevant evidence pertinent to imaging follow up and simply suggested clinical and imaging assessment during the first post-revascularisation year because most recurrences were observed during this time.⁹

The EVisAR study is crucial for addressing long term outcomes and providing the much needed robust evidence to guide future recommendations. Although the survey provides a valuable cross sectional view, it is limited by its self-reported nature and the potential for selection bias among EVisAR participants. This study focused on management strategies and decision making pathways, rather than technical or clinical outcomes. Data on the frequency of treatment failure and the specific rescue manoeuvres were not captured. This represents a limitation, as understanding the management of complications is as vital as the primary treatment strategy itself and should be addressed in future EVisAR clinical publications. Generalisation is limited by the fact that the large majority of participants were from academic centres, with a preponderance of centres from a single country (Italy). Finally, although the survey was conducted 3 months prior to publication of the ESVS guidelines, survey participants' prepublication potential knowledge of the updated content was not an exclusion to participation.

<H2>Conclusions and relevance

This survey highlights the variability in the management of CMI, AMI, and RAS among vascular surgeons. The overall caseload for these entities is low across different European centres, and the endovascular approach is the dominant treatment modality for all these conditions. However, the management of these pathologies demonstrates a global lack of consensus, with the lowest concordance in follow up strategies. This and future studies using data derived from the EVisAR project should aid in identifying aspects of the management of visceral artery pathologies that may benefit from more consistent diagnostic, therapeutic, and follow up strategies.

<END ARTICLE>

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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Figure 1. Survey participants' most frequent management strategies for CMI and consistency with the 2025 ESVS guidelines. Green, orange, and red tags stand for full, partial, and non-consistent, respectively, with respect to the abovementioned guidelines. Partial and non-consistency were defined as survey answers that partially or completely deviated from the guideline recommendations. No tag indicates that the topic was not covered by the guidelines, and bold characters indicate that >50% respondents agreed with the chosen management. BE = XXX; CMI = chronic mesenteric ischaemia; CTA = computed tomography angiography; DAPT = dual antiplatelet therapy; DUS = duplex ultrasound; ESVS = European Society for Vascular Surgery; SAPT = single antiplatelet therapy.

Figure 2. Survey participants' most frequent management strategies for AMI management flowchart and consistency with the 2025 ESVS guidelines. Green, orange, and red tags stand for full, partial, and non-consistent, respectively, with respect to the abovementioned guidelines. Partial and non-consistency were defined as survey answers that partially or completely deviated from the guideline recommendations. No tag indicates that the topic was not covered by the guidelines, and bold characters indicate that >50% respondents agreed with the chosen management. AMI = acute mesenteric ischaemia; CTA = computed tomography angiography; DAPT = dual antiplatelet therapy; ESVS = European Society for Vascular Surgery; SAPT = single antiplatelet therapy.

Figure 3. Survey participants' most frequent management strategies for renal artery stenosis management flowchart and consistency with the 2025 ESVS guidelines. Green, orange, and red tags stand for full, partial, and non-consistent, respectively, with respect to the abovementioned guidelines. Partial and non-consistency were defined as survey answers that partially or completely deviated from the guideline recommendations. No tag indicates that the topic was not covered by the guidelines, and bold characters indicate >50% respondents agreed with the chosen management. CTA = computed tomography angiography; DAPT = dual antiplatelet therapy; DUS = duplex ultrasound; ESVS = European Society for Vascular Surgery; MRA = magnetic resonance angiography; RAS = renal artery stenosis; SAPT = single antiplatelet therapy.

Table 1. Study participants' characteristics (n = 64).

Question of interest	n (%)
<i>Country</i>	
Austria	2 (3)
Belgium	2 (3)
France	5 (8)
Germany	2 (3)
Italy	35 (55)
Moldova	2 (3)
The Netherlands	1 (2)
Serbia	1 (2)
Spain	8 (13)
Sweden	1 (2)
Switzerland	1 (2)
United Kingdom	1 (2)
Non-European	2 (3)
<i>Speciality</i>	
Vascular surgery	63 (98)
General surgery	1 (2)
Trainee	6 (9)
<i>Years of experience, consultants</i>	
0–5	10 (17)*
5–10	12 (21)*
10–15	17 (29)*
15–20	9 (16)*
>20	10 (17)*
Teaching responsibilities, consultants	54 (93)*

<i>Institution setting</i>	
University hospital	54 (84)
Non-academic teaching hospital	8 (13)
Non-academic non-teaching hospital	2 (3)
<i>Institutional level of referral</i>	
Primary	0
Secondary	2 (3)
Tertiary	62 (97)
Multidisciplinary team	49 (76)
<i>Other specialists involved, multiple choices allowed</i>	
General surgery	44 (69) [†]
Interventional radiology	42 (66) [†]
Gastroenterology	32 (50) [†]
Internal medicine	19 (30) [†]
Anaesthesiologist/ICU physician	34 (53) [†]
Nutritional medicine	13 (20) [†]
Psychology	4 (6) [†]
Nephrology	21 (33) [†]
Urology	2 (3) [†]
Gynaecologist	2 (3) [†]
<i>Operative setting</i>	
Hybrid OR	33 (52)
Standard OR and mobile C-arm	18 (28)
Standard OR for damage control surgery than moved to angiosuite	2 (3)
Angiosuite for revascularisation than moved to standard OR for damage control surgery	11 (17)

ICU = intensive care unit; OR = operative room.

* Proportion calculated on subtotal ($n = 58$).

[†] Proportion calculated on row ($N = 64$).

Table 2. Degree of concordance among respondents in different sections of the questionnaire.

Item	Fleiss κ (95% CI)	<i>p</i>
Survey (overall)	0.45 (0.40–0.50)	<0.001
<i>CMI (overall)</i>	0.36 (0.28–0.44)	<0.001
Diagnosis and therapeutic indications	0.23 (0.12–0.34)	0.006
Therapeutic strategies	0.45 (0.30–0.61)	<0.001
Follow up indications	0.27 (0.1–0.46)	0.015
<i>AMI (overall)</i>	0.46 (0.35–0.57)	<0.001
Diagnosis and therapeutic indications	0.54 (0.11–0.97)	0.026
Therapeutic strategies	0.45 (0.30–0.61)	<0.001
Follow up indications	0.13 (–0.03–0.30)	0.076
<i>RAS (overall)</i>	0.41 (0.28–0.54)	<0.001
Diagnosis and therapeutic indications	0.39 (0.16–0.61)	0.005
Therapeutic strategies	Not estimated	–
Follow up indications	0.19 (0.11–0.26)	0.004

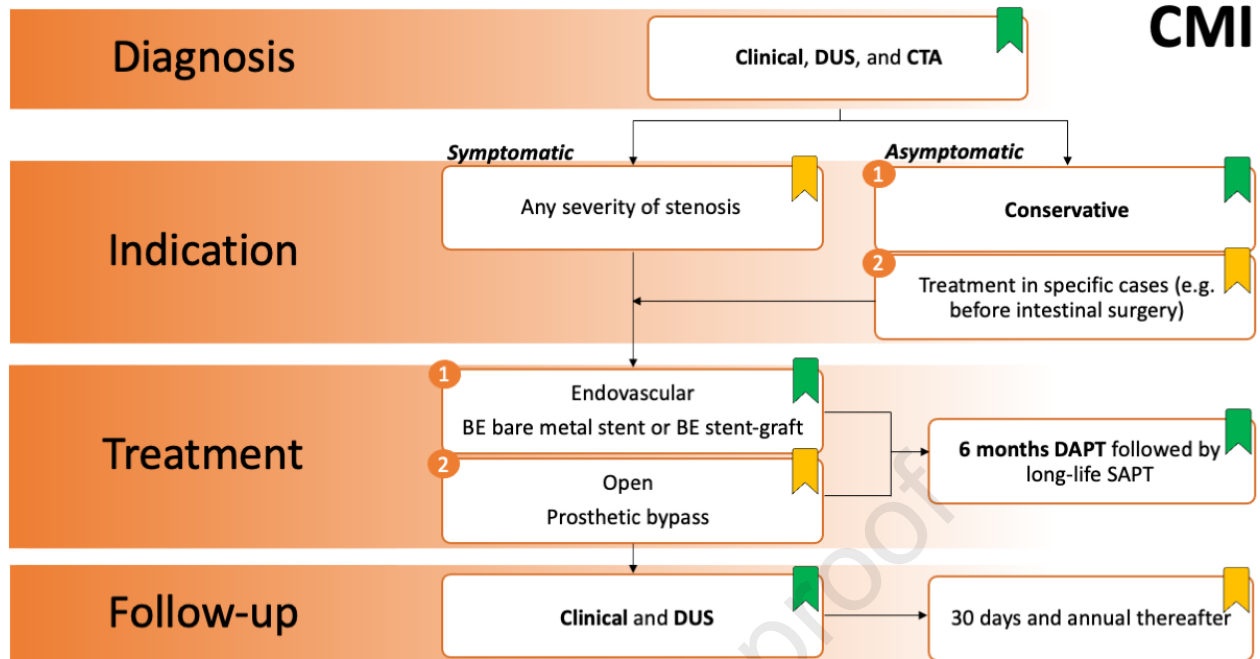
Interpretation for Fleiss κ : ≥ 0.80 , almost perfect agreement; 0.60 – 0.79, substantial agreement; 0.40 – 0.59, moderate agreement; 0.20 – 0.39, fair agreement; and < 0.20 , poor agreement. AMI = acute mesenteric ischaemia; CI = confidence interval; CMI = chronic mesenteric ischaemia; RAS = renal artery stenosis.

EVisAR Study Survey Participants, in alphabetical order:

Francesco Andreoli (Lugano, Switzerland), Domenico Angiletta (Bari, Italy), Ciro Baeza (Madrid, Spain), Giulia Bertagna (Pisa, Italy), Luca Bertoglio (Brescia, Italy), Claudio Bianchini Massoni (Parma, Italy), Stefano Bonvini (Trento, Italy), Jennifer Canonge (Creteil, France), Caroline Caradu (Bordeaux, France), Dumitru Casian (Chişinău, Moldova), Giovanni Coppi (Bolzano, Italy), Raphaël Coscas (Boulogne-Billancourt, France), Gianmarco de Donato (Siena, Italy), Claudio Desantis (Brindisi, Italy), Vasile Culiuc (Chişinău, Moldova), Pablo del Canto Peruera (Gijon, Spain), Serguei de Varona Frolov (Gran Canaria, Spain), Florian Enzmann (Innsbruck, Austria), Davide Esposito (Genova, Italy), Antonio Fontana (Reggio Emilia, Italy), Mauro Gargiulo (Bologna, Italy), Kerbi Alejandro Guevara Noriega (Sabadell, Spain), Elena Iborra (Barcelona, Spain), Gabriel Inaraja Perez (Zaragoza, Spain), Shirley Jansen (Perth, Australia), Angelos Karelis (Malmo, Sweden), Arnaud Kerzmann (Liege, Belgium), Anne Lejay (Strasbourg, France), Wassim Mansour (Rome, Italy), Paola Manzo (Turin, Italy), Dorelly Martinez Del Carmen (Barcelona, Spain), Daniela Mazzaccaro (Milan, Italy), Ignacio Michel (Madrid, Spain), Mattia Migliari (Modena, Italy), Fabio Massimo Oddi (Rome, Italy), Edoardo Pasqui (Siena, Italy), Felice Pecoraro (Palermo, Italy), Francesca Persiani (Rome, Italy), Michele Piazza (Padova, Italy), Fernando Picazo Pineda (Perth, Australia), Davide Maria Pressanto (Parma, Italy), Massimo Giuseppe Ruggiero (Brindisi, Italy), Simona Sica (Rome, Italy), Gioele Simonte (Perugia, Italy), Jonathan Sobocinski (Lille, France), Francesco Squizzato (Padova, Italy), Luis Angel Suarez Gonzalez (Gijon, Spain), Giovanni Tinelli (Rome, Italy), Valerio Tolve (Milan, Italy), Nicola Troisi (Pisa, Italy), Davide Turchino (Naples, Italy), Jos Van Den Berg (Lugano, Switzerland) Isabelle Van Herzeele (Gent, Belgium), Vincenzo Vento (Ancona, Italy), Apollonia Verrengia (Brescia, Italy), Fabio Verzini (Turin, Italy), Mikolaj Walensi (Essen, Germany), David Wippel (Innsbruck, Austria), Andrea Xodo (Vicenza, Italy), Petar Zlatanovic (Belgrade, Serbia).

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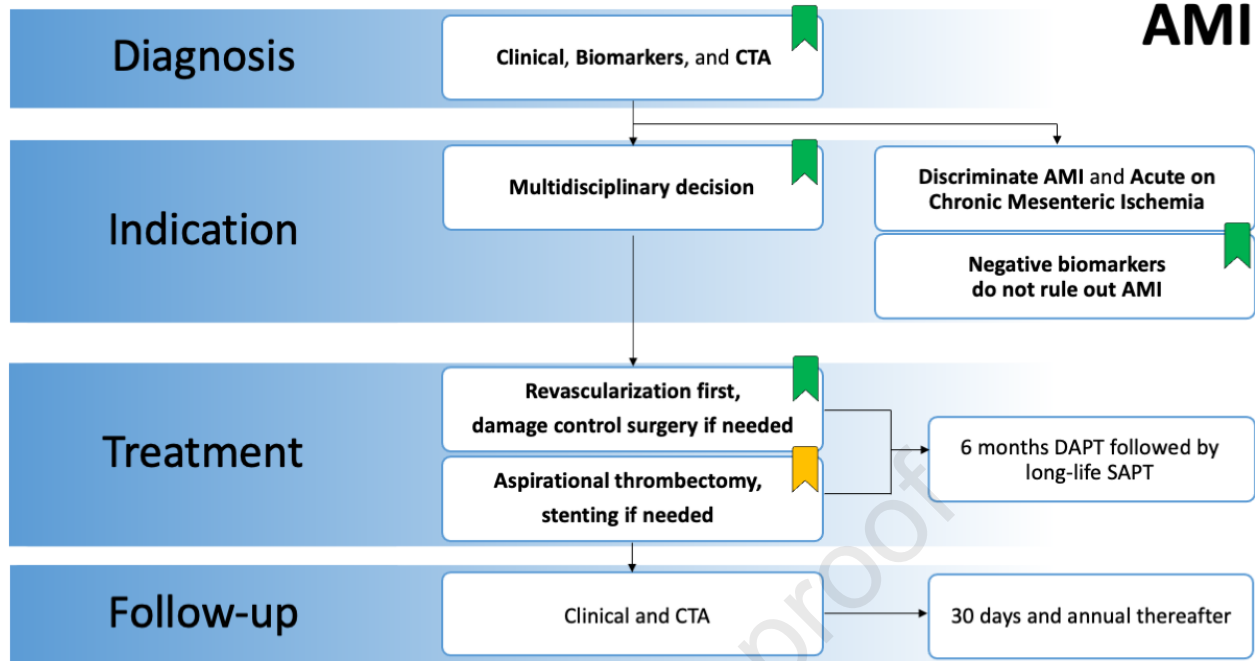
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ESVS 2025 guidelines⁹ consistency: green tag – consistent, orange tag – partially consistent, and red – non-consistent.

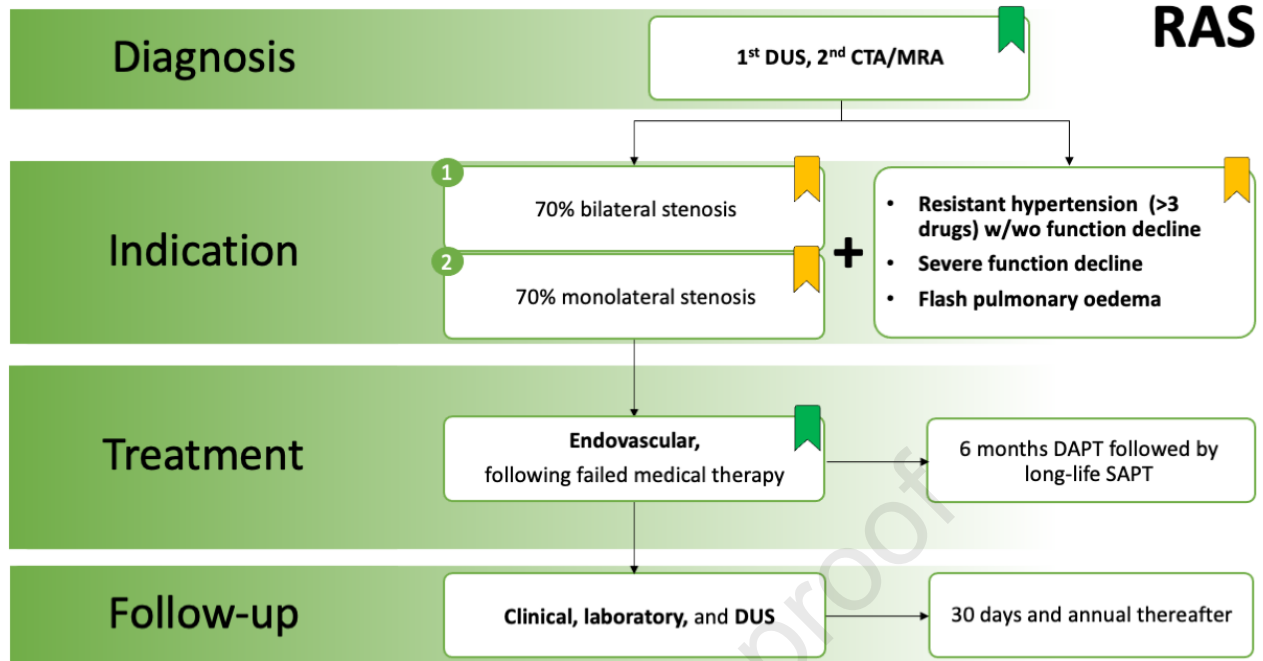


AMI



ESVS 2025 guidelines⁹ consistency: green tag – consistent, orange tag – partially consistent, and red – non-consistent.





ESVS 2025 guidelines⁹ compliance: green tag – compliant, orange tag – partially compliant, and red – non compliant.



Highlights

- Management of visceral occlusive diseases is highly heterogeneous.
- Endovascular approaches are the dominant treatment choice.
- Revascularization is rarely required and resulting in low annual caseloads.
- A significant lack of consensus on follow-up strategies exists.