CHU de Martinique

Artériopathie et grand âge

ARMV Antilles

Dr BARTHOLET-GAZEUSE Seendy

18ème Séminaire de Pathologie Vasculaire

ARMV

Le 17/11/2023

Un peu d'épidémiologie

- L'AOMI touche 200 millions de personnes dans le monde.
- 3ème cause de morbidité cardiovasculaire, après la maladie coronarienne et l'AVC.

BIASI L. 2017 Complex infrapopliteal revascularization in elderly patients with critical limb ischemia: impact of multidisciplinary integrated care on mid-term outcome, The Journal of cardiovascular surgery. Vol 58 N°5

- Augmentation exponentielle de la prévalence avec l'âge ⟶ > 75 ans = 20%

- L'AOMI x 2,36 le risque de mortalité toutes causes confondues.
- Relation indépendante entre AOMI et morbi-mortalité cardiovasculaire.
- Survie à 5 ans
  - Avec AOMI : 63%
  - Sans AOMI 90%

(BELMIN J.2008 Collection pour le praticien Gériatrie 2ème édition MASSON)

- Rapport bénéfice/risque de la chirurgie ⇒mortalité post-opératoire 10% à > 20%.

- L'AO
- 16 %

Martinique)

s confondus

symptomatique en médecine générale en

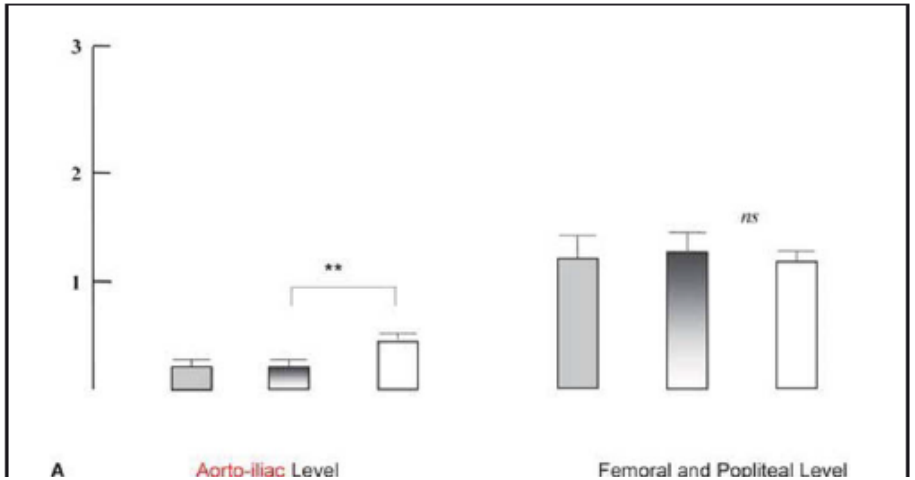


Tableau 3 Biological characteristics in all 754 patients and comparisons between claudicants and those with critical limb ischemia (CLI)

	Overall N=754	Claudicants N=153	CLI N = 501	*p*
Body mass index (kg/m^2)	25.3 ± 5.1	26 ± 4.8	25 ± 5.3	*ns*
Glomerular filtration rate* (ml/mn)	58 ± 24	67 ± 25	53 ± 23	<0.001
Glycosylated hemoglobin (%)**	8.01 ± 2	7.95 ± 1.59	8.05 ± 2.05	*ns*
LDL-cholesterol (mM/L)	3.1 ± 1.0	3.4 ± 0.9	3.0 ± 0.9	*ns*
Triglycerides (mM/L)	1.4 ± 0.9	1.8 ± 1.1	1.4 ± 0.8	<0.001
Smoking (Pack-Years) ***	32 [20-50]	30 [19-50]	32 [18-54]	*ns*

* excluding patients under dialysis, calculated according to the Cockcroft et Gault formula
** diabetic patients only
*** median [25th-75th percentile]

Denueville M. (2008) Particularities of peripheral arterial disease managed in vascular surgery in the French West Indies. Archives of Cardiovascular Diseases 101 (2008) 23-29

Stratégies de dépistage

Discordances dans les recommandations internationales

AHA guidelines

- Age ≥ 65 ans
- Age 50-64 ans, avec des facteurs de risque d'athérosclérose (ex : diabète, tabagisme, dyslipidémie, hypertension ou antécédent familial d'AOMI)
- Age < 50 ans, avec un diabète et 1 facteur de risque d'athérosclérose additionnel
- Individus avec une maladie athéromateuse connue dans un autre territoire (coronaire, carotide, subclavière, rénale, mésentérique, AAA)

ESC guidelines

- Hommes et femmes de plus de 65 ans
- Hommes et femmes < 65 ans classés à haut risque cardiovasculaire selon les ESC Guidelines
- Hommes et femmes > 50 ans avec un antécédent familial d'AOMI

ESVM guidelines

- Pas de dépistage des patients asymptomatiques

AOMI MASQUEE ?

Mahé G; SFMV/SCVE group; SFMV/SCVE group. Disparities Between International Guidelines (AHA/ESC/ESVS/ESVM/SVS) Concerning Lower Extremity Arterial Disease : Consensus of the French Society of Vascular Medicine (SFMV) and the French Society for Vascular and Endovascular Surgery (SCVE). Ann Vasc Surg . 2021 Apr;72:1 56. »

Circonstances de découverte / Quand suspecter une AOMI?

- Symptomatologie atypique

Circonstances de découverte:

- **Asymptomatique** / Pauci-symptomatique (Pouls absent)
  - **AOMI masquée**
- **Claudication intermittente** 5-10%
- **Douleurs de décubitus ++**
- **Ischémie critique** / Troubles trophiques

- AOMI masquée: nouveau concept +++

Quelles co-pathologies?

- + Recherche d'autres localisations: coronaire et cérébro-vasculaire

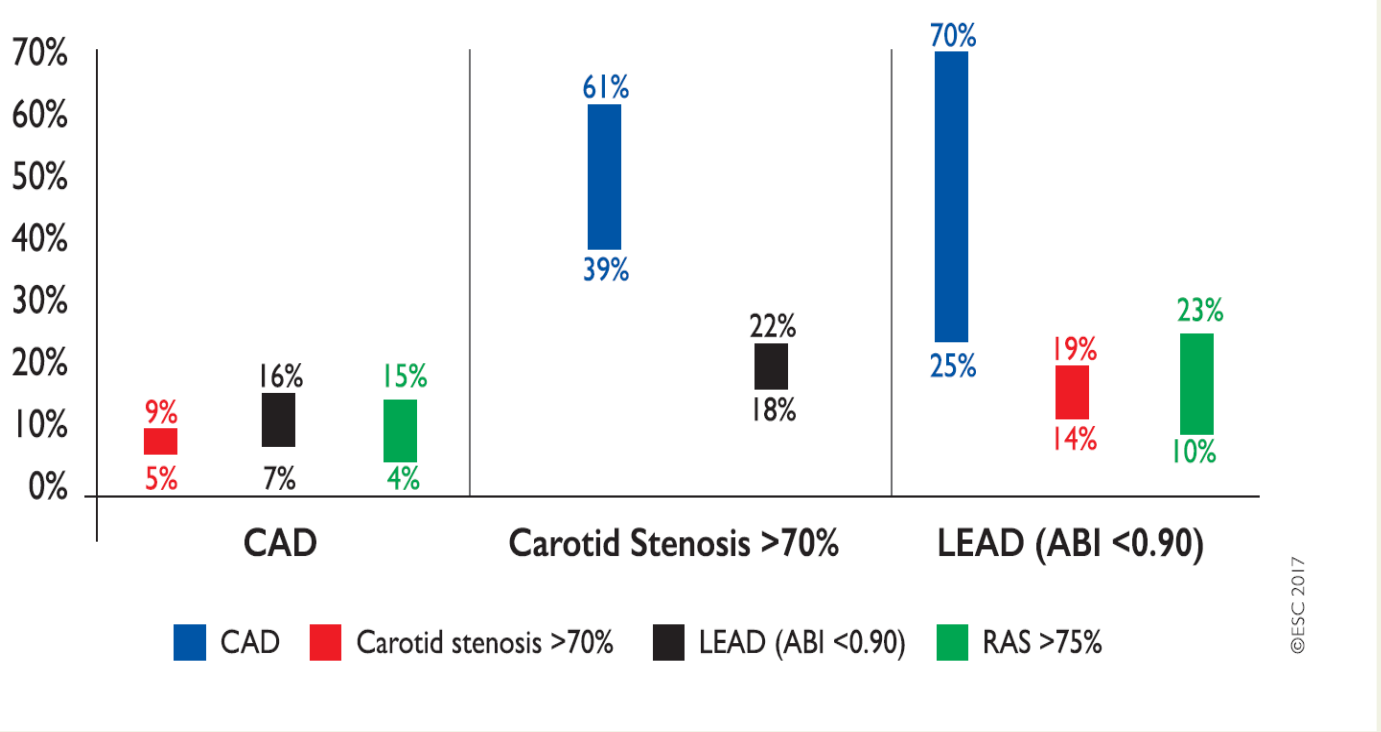


Figure 8 Reported rate ranges of other localizations of atherosclerosis in patients with a specific arterial disease.[51, 335–343] The graph reports the rates of concomitant arterial diseases in patients presenting an arterial disease in one territory (e.g. in patients with CAD, 5 - 9% of cases have concomitant carotid stenosis >70%). ABI = ankle-brachial index; CAD = coronary artery disease; LEAD = lower extremity artery disease; RAS = renal artery stenosis.

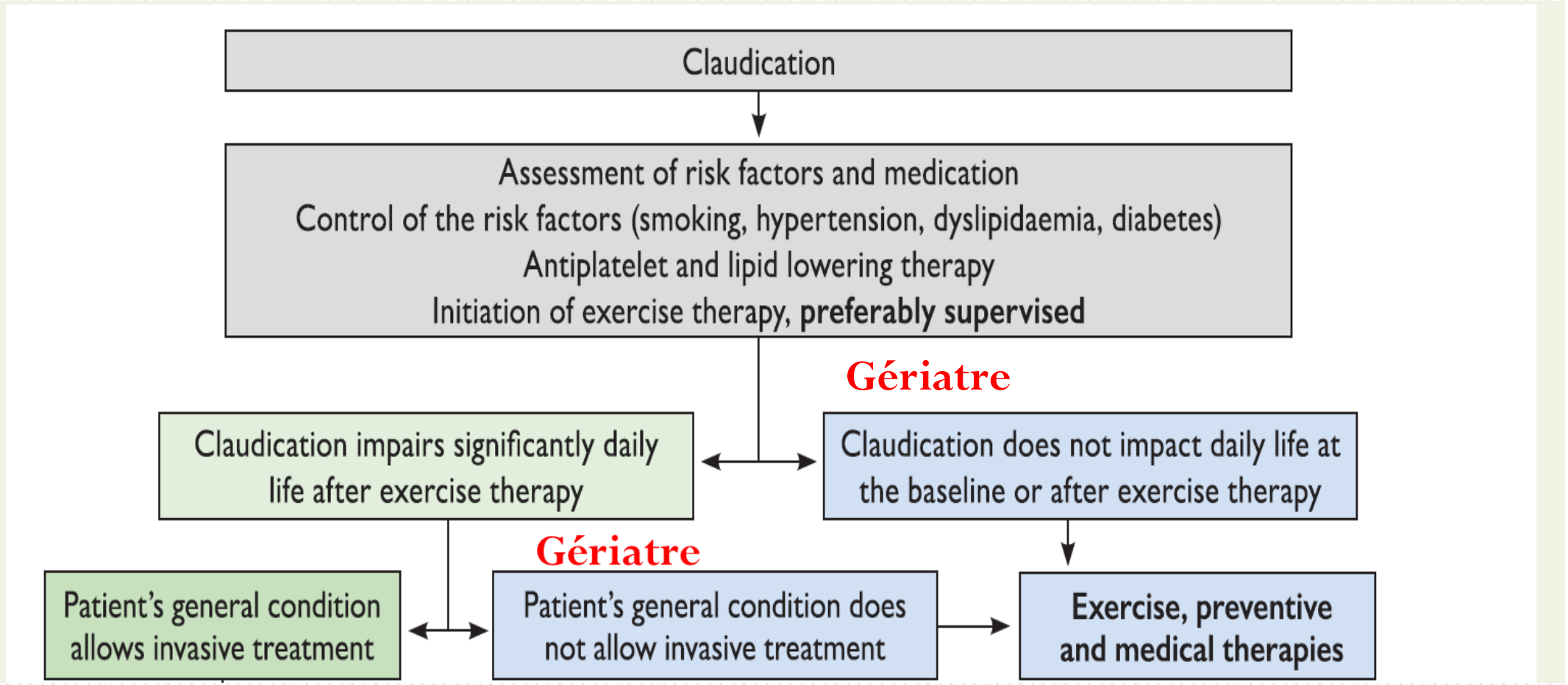
- **Coronaropathie** : anamnèse, examen + Avis cardio pour tous
- **Sténose carotidienne** : anamnèse, examen (dont PA aux 2 bras) pour tous → Echodoppler si signes d'appel
- **Sténose des artères rénales** : si OAP flash ou IR rapidement progressive uniquement
- **Insuffisance cardiaque, FA, valvulopathie** : anamnèse, examen +/ Avis cardio si contributif

2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS)

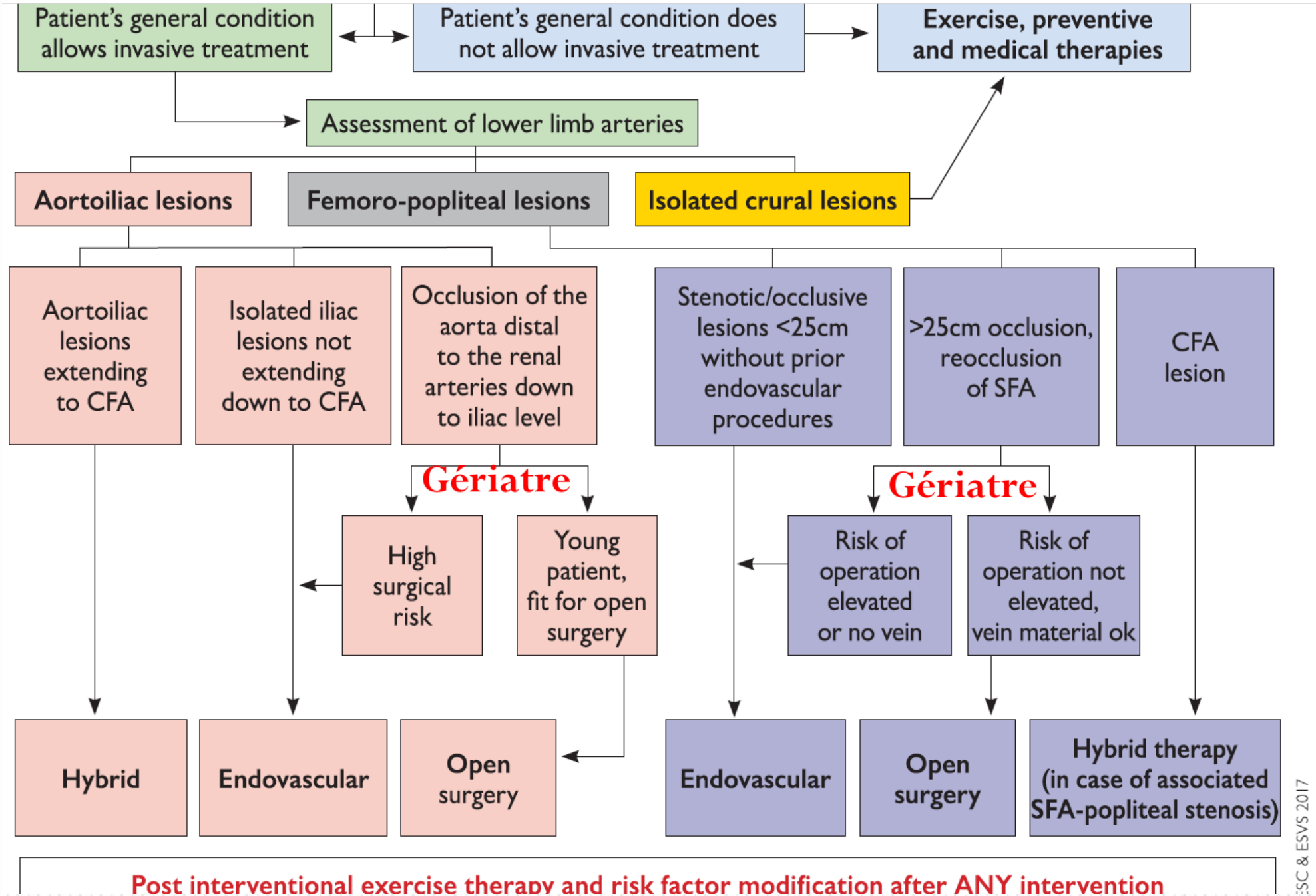
Traitement médical

- 2 aspects:
  - 1- Traitement spécifique de la lésion causale
  - 2- Gestion des FdR cardio-vasculaires:
    - <u>Traitement non-pharmacologique:</u>
      - Arrêt du tabac // Alimentation saine // Exercice physique régulier ++
    - <u>Traitement pharmacologique:</u>
      - Traitement antihypertenseur:
        - Objectif: TA < 140/90 mmHg, IEC ou ARA II, bêta-bloquants non CI / prudence si ischémie critique
      - Statines :
        - Objectifs à adapter au profil gériatrique, jusqu'à LDL < 0,55 g/L pour les plus robustes
      - Antithrombotique // Si indication d'anticoagulation, l'anticoagulation prime
      - Si diabétique: contrôle optimal du diabète

Quelle place pour le gériatre en cas de claudication / AOMI masquée?



2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS)



2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS)

Quelle place pour le gériatre en cas d'ischémie critique?

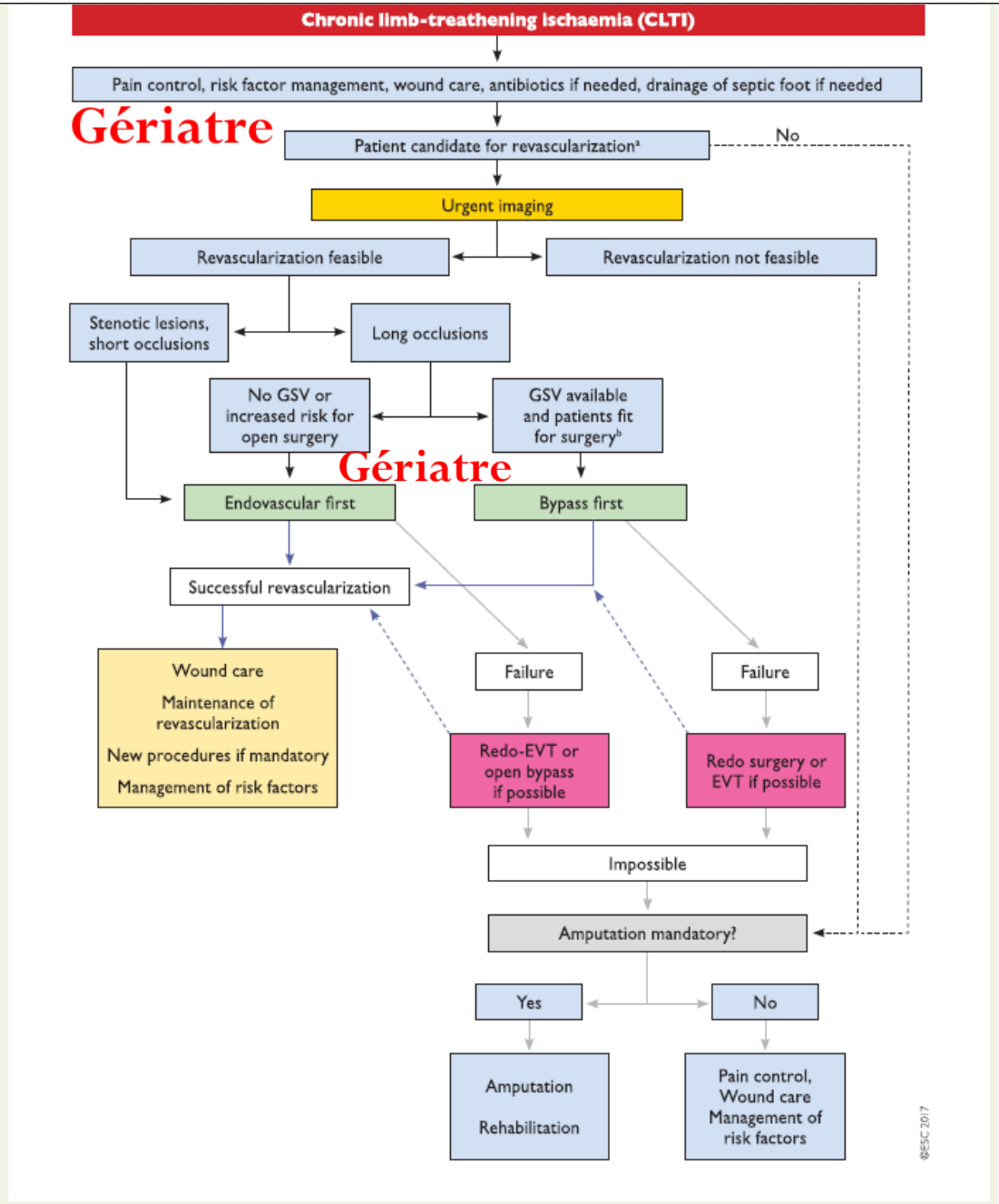
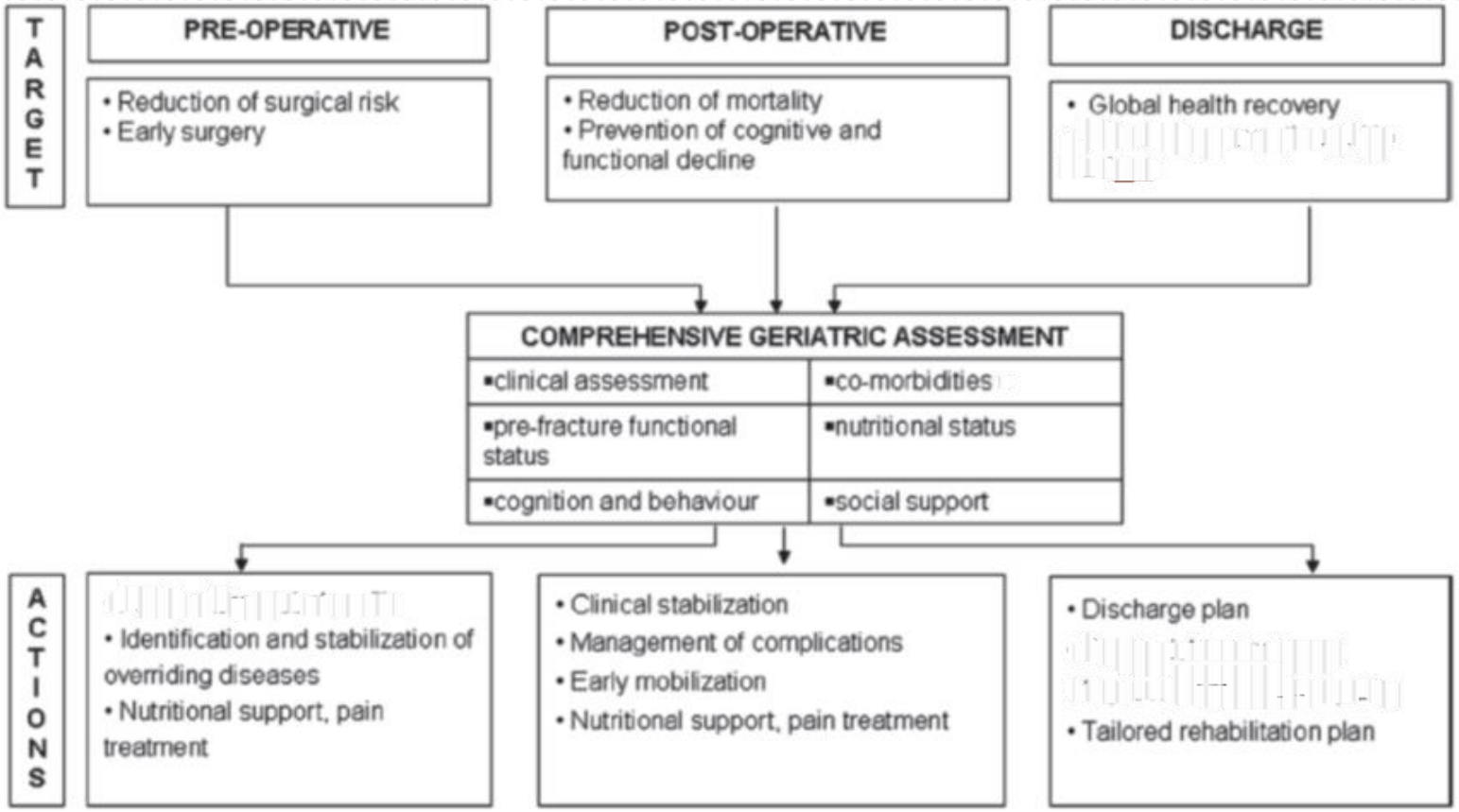


Figure 6 Management of patients with chronic limb-threatening ischaemia. EVT= endovascular therapy; GSV = great saphenous vein.
[a]In bedridden, demented and/or frail patients, primary amputation should be considered.
[b]In the absence of contra-indication for surgery and in the presence of adequate target for anastomosis/runoff.

Patient alité, comorbide, porteur de TNC et/ou fragile considérer l'amputation d'emblée

2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS)

Le plan d'action du gériatre



La fragilité

- 3 groupes de personnes âgées définies en gériatrie:
  - Les personnes **ROBUSTES**
  - Les sujets **FRAGILES** +++
  - Les personnes âgées **DEPENDANTES**

- Qu'est-ce-qui les différencie?

La fragilité peut-elle être prédictive?

TABLE 4. Summary of Meta-analysis Results (Associations of Frailty With Outcomes)

Outcome Measure	Studies	Patients	Effect Estimate*	I^2	GRADE Score
Unadjusted variables (Mantel–Haenszel method; random-effects model)					
Pneumonia	4	14669	**OR 5.76 (3.70, 8.96)**	0%	⊕⊕◯◯ Low
MI/ACS	3	14605	OR 1.48 (0.55, 3.94)	51%	⊕◯◯◯ Very low
Stroke/TIA	3	14544	OR 2.13 (0.79, 5.76)	10%	⊕◯◯◯ Very low
Surgical site infection	3	13621	**OR 2.62 (1.30, 5.29)**	0%	⊕◯◯◯ Very low
Composite postop complication	8	58528	**OR 2.63 (1.93, 3.59)**	87%	⊕◯◯◯ Very low
Nonhome discharge	3	13710	**OR 3.57 (1.29, 9.87)**	88%	⊕◯◯◯ Very low
30-d mortality	6	59105	**OR 4.81 (4.02, 5.75)**	0%	⊕◯◯◯ Very low
Adjusted variables (generic inverse variance method; random-effects model)					
Composite postop complications	3	19196	**OR 2.16 (1.55, 3.02)**	58%	⊕◯◯◯ Very low
30-d mortality	3	20028	**OR 2.77 (2.01, 3.81)**	13%	⊕⊕◯◯ Low
Long-term mortality	9	2904	**HR 1.85 (1.31, 2.62)**	74%	⊕⊕◯◯ Low

Values in bold highlight events with significant associations with frailty.
ACS, acute coronary syndrome; MI, myocardial infarction; TIA, transient ischemic attack.
*Values are odds or hazard ratio for outcome event in frail versus nonfrail patients with 95% confidence intervals in parentheses.

Houghton J.S.M 2019 Frailty factors and outcomes in vascular surgery patients: A systematic review and meta-analysis. Ann Surg

L'évaluation du gériatre: Un réel intérêt?

Table 2 Primary and secondary outcomes of participants who progressed to surgery, according to allocated study arm

	Control ($n = 91$)	Intervention ($n = 85$)	Difference (intervention – control)‡	P¶¶
Primary outcome				
Length of hospital stay (days)*	5·53	3·32	0·60 (0·46, 0·79)§§	< 0·001##
Secondary outcomes				
Postoperative delirium	22 (24)	9 (11)	−14 (−25, −2)	0·018
Acute coronary syndrome	4 (4)	0 (0)	−4 (−11, 1)	0·051***
Cardiac failure	5 (5)	1 (1)	−4 (−11, 2)	0·212***
Tachyarrhythmia	17 (19)	3 (4)	−15 (−25, −6)	0·002***
Bradyarrhythmia	7 (8)	4 (5)	−3 (−11, 5)	0·413***
Pneumonia	12 (13)	8 (9)	−4 (−13, 6)	0·430
Wound infection	13 (14)	4 (5)	−10 (−19, 0)	0·032***
Urinary tract infection	9 (10)	4 (5)	−5 (14, 3)	0·196***
Constipation	40 (44)	24 (28)	−16 (−29, −2)	0·026
Faecal incontinence	9 (10)	1 (1)	−9 (−17, −2)	0·019***
Catheter issue	7 (8)	4 (5)	−3 (−11, 5)	0·413***
Fall	7 (8)	2 (2)	−5 (−13, 2)	0·171***
Postoperative cardiac complication§	25 (27)	7 (8)	−19 (−30, −8)	0·001
Postoperative pulmonary complication¶	13 (14)	8 (9)	−5 (−15, 5)	0·319
Postoperative infective complication#	25 (27)	14 (16)	−11 (−23, 1)	0·086
Postoperative bowel and bladder complications**	50 (55)	28 (33)	−22 (−35, −7)	0·003
Postoperative vascular surgery-related issues††	10 (11)	6 (7)	−4 (−13, 5)	0·365
Discharge timed get up and go (s)†	20·1(11·6)	18·9(1·8)	−1·2 (−4·7, 2·3)	0·584
Discharge gait speed (m/s)†	0·7(0·2)	0·7(0·3)	0·0 (−0·1, 0·1)	0·696
Postoperative haemoglobin (g/l)†	104(84)	100(21)	−4 (−23, 15)	0·657
Postoperative blood transfusion (units infused)†	1·0(3·7)	0·3(0·7)	−0·7 (−1·5, 0·1)	0·065
Postoperative creatinine (μmol/l)†	134(120)	108(52)	−26 (−54, 2)	0·070
Unplanned 30-day readmission	10 (11)	15 (18)	7 (−4, 17)	0·193
Composite measure of complicated discharge‡‡	12 (13)	4 (5)	9 (−17, 0)	0·051***
Level 2/3 care used immediately after surgery	39 (43)	26 (31)	−12 (−26, 2)	0·082

Values in parentheses are percentages unless indicated otherwise; values are *geometric mean, †mean(s.d.) and ‡values in parentheses are 95 per cent confidence intervals. §Acute coronary syndrome, heart failure, tachyarrhythmia or bradyarrhythmia; ¶pneumonia, infective exacerbation of chronic obstructive pulmonary disease (COPD); #pneumonia, infective exacerbation of COPD, wound infection, urinary tract infection; **urinary tract infection, catheter-related issue, constipation, faecal incontinence; ††bleed, vessel rupture, occlusion, paraplegia; ‡‡new care package, reablement, discharge to bed-based rehabilitation, other hospital, new care home placement. §§Difference expressed as the ratio of geometric means (intervention/control); the analysis was adjusted for stratification factors sex and site of surgery. ¶¶χ^2 test, except ##multiple regression and ***Fisher's exact test.

Patridge J.S.L 2016 Randomized clinical trial of comprehensive geriatric assessment and optimization in vascular surgery.BJS 104:679-687

L'évaluation du gériatre: Un réel intérêt?

Table 3 Identification of previously unrecognized issues across multiple domains using comprehensive geriatric assessment according to allocated study arm

	Control ($n = 100$)	Intervention ($n = 101$)	P*
Delirium risk assessment undertaken	0 (0)	99 (98·0)	< 0·001
New diagnosis made at preoperative assessment			
Ischaemic heart disease	0 (0)	5 (5·0)	0·059
Cardiac failure	0 (0)	5 (5·0)	0·059
Atrial fibrillation	1 (1·0)	3 (3·0)	0·621
COPD	0 (0)	15 (14·9)	< 0·001
Diabetes	0 (0)	2 (2·0)	0·498
Cerebrovascular disease	0 (0)	1 (1·0)	1·000
Cancer	0 (0)	2 (2·0)	0·498
Cognitive impairment	1 (1·0)	47 (46·5)	< 0·001
Chronic kidney disease (stage ≥ 3)	0 (0)	26 (25·7)	< 0·001
Valve lesion	3 (3·0)	9 (8·9)	0·134
Tachyarrhythmia or bradyarrhythmia	0 (0)	2 (2·0)	0·498
Parkinson's disease	0 (0)	1 (1·0)	1·000
Composite measure of new diagnosis made at preoperative assessment	5 (5·0)	64 (63·4)	< 0·001†

Values in parentheses are percentages. COPD, chronic obstructive pulmonary disease. *Fisher's exact test, except †χ^2 test.

Patridge J.S.L 2016 Randomized clinical trial of comprehensive geriatric assessment and optimization in vascular surgery.BJS 104:679-687

L'évaluation du gériatre: Un réel intérêt?

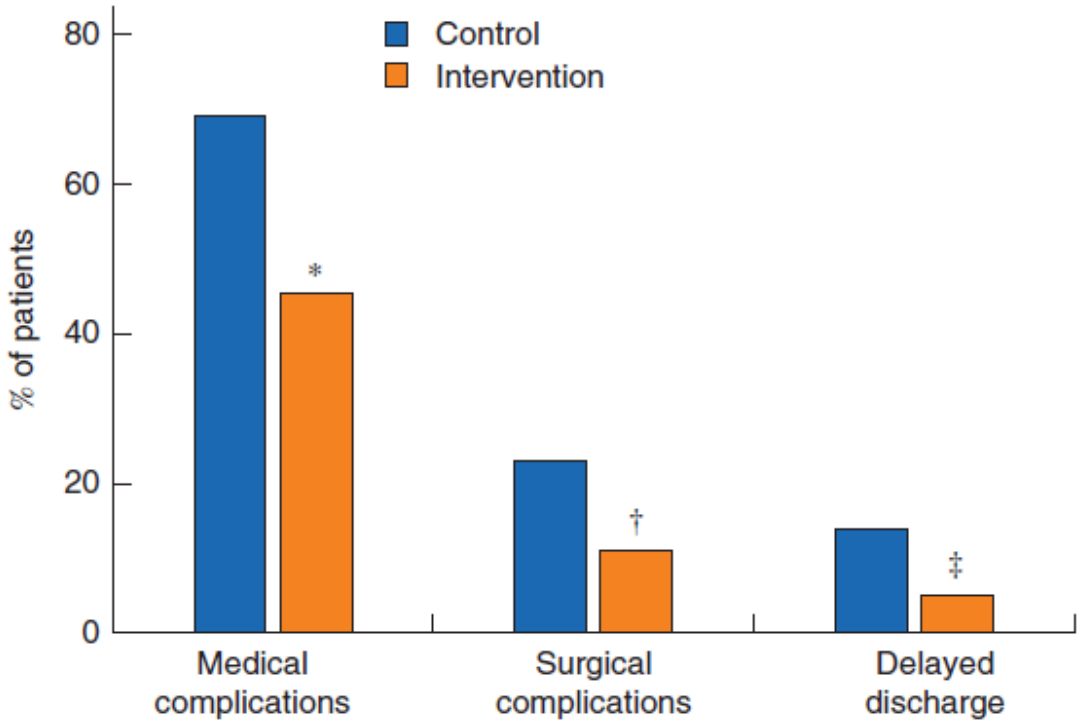


Fig. 2 Percentage of patients with complications and delayed discharge by trial arm. *$P = 0{\cdot}002$, †$P = 0{\cdot}042$, ‡$P = 0{\cdot}051$ *versus* control (χ^2 test)

Patridge J.S.L 2016 Randomized clinical trial of comprehensive geriatric assessment and optimization in vascular surgery.BJS 104:679-687

Et l'ischémie aigue en urgence?

Table II. Negative risk factors in the 1-year survival in univariate and multivariate analysis

	Univariate analysis	Multivariate analysis	
Variables	*P* value	Hazard ratio [95% CI]	*P* value
Gender (men/women)	0.7112		
HBP	0.6266		
HCT	0.8204		
Smoking	0.7635		
Diabetes	0.6771		
AF	0.1675		
CVA/TIA	0.0003[a]	3.05 [1.54-6.02]	0.0014[a]
Heart failure	0.0027[a]	2.21 [1.23-3.97]	0.0083[a]
Respiratory insufficiency	0.8464		
ASA > 3	0.1072		
Bedridden	0.0001[a]	0.46 [0.20-1.04]	0.0628
Institutionalization	0.0125[a]	0.80 [0.41-1.57]	0.5264
Dementia	0.0452[a]	1.14 [0.55-2.38]	0.7176
UL	0.3641		
Embolic cause	0.4611		
Complete ALI	0.0002[a]	3.07 [1.64-5.75]	0.0005[a]

CI, confidence interval; CVA, cerebrovascular accident; HCT, hypercholesterolemia; smoking, active smoking; TIA, transient ischemic accident; UL, upper limb.
[a]Statistical significance.

Dubouis A. 2020 Results of surgical Management of acute limb ischemia in the nonagerians.Ann Vasc Surg 2021; 70: 378-385

Take Home message

- Nouveau concept d'AOMI masquée ++
- Ne pas oublier de dépister les autres comorbidités cardio-vasculaires
- Place du gériatre importante pour évaluation de la fragilité / espérance de vie / niveau de soins
- Collaboration entre les médecins vasculaires / chirurgiens et gériatres → Plan de soins adapté au malade

Merci de votre attention