INDICATIONS DES ENDARTÉRIECTOMIES

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INTRODUCTION

- Endartériectomie assure l'ablation chirurgicale de l'athérome
- 1ère description en 1947 par Jean Cid Dos Santos (Lisbonne)
- Modalités fixées par les essais cliniques : EVA-3S
- Prevention ou correction d'un accident ischémique aigue ou chronique
- Techniques multiples et variées
- Indication : pluridisciplinaire

1.1. Définition

- Ablation de l’’intima et de la partie adjacente de la media
- Artère altérée par l’athérosclérose

1.2. Bases anatomiques

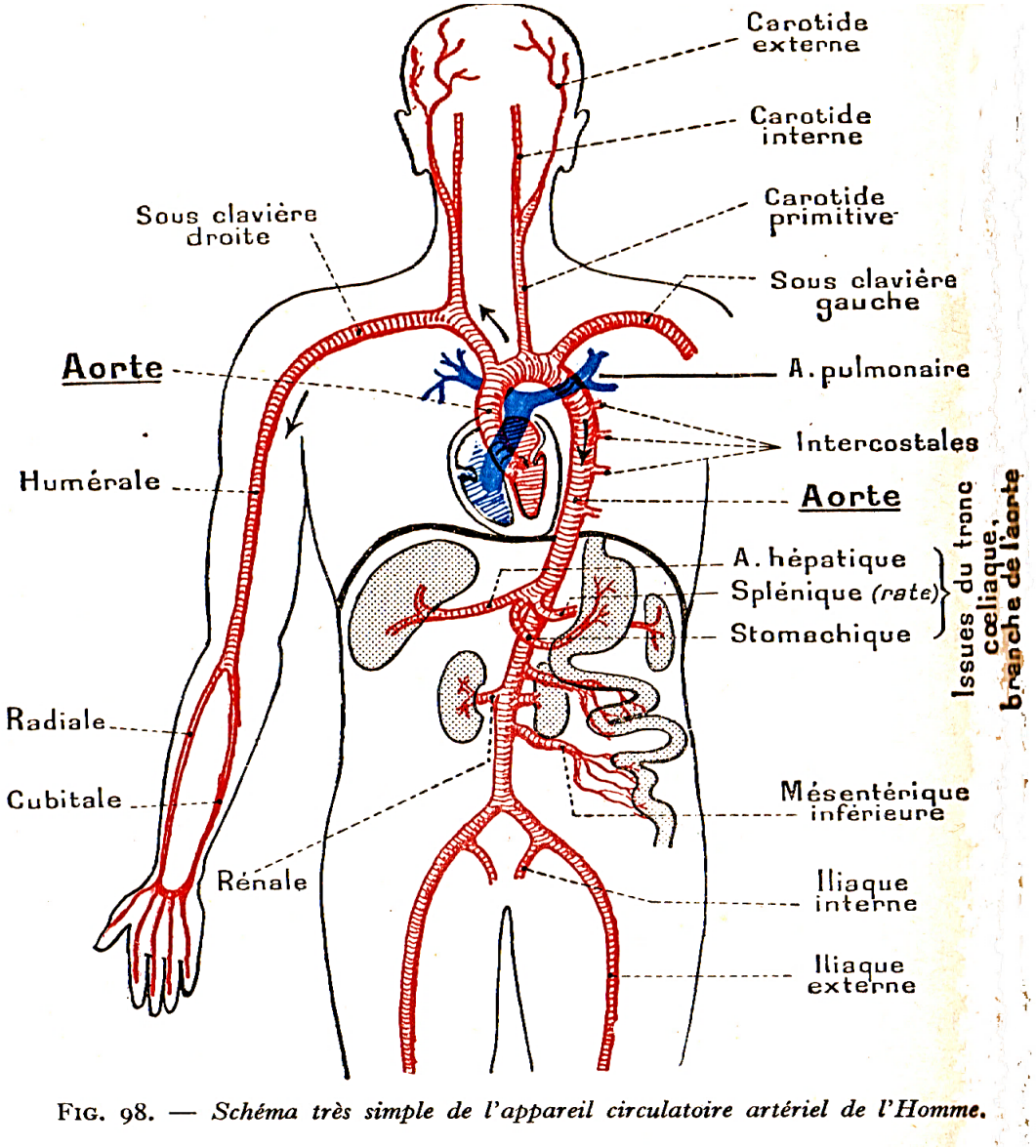
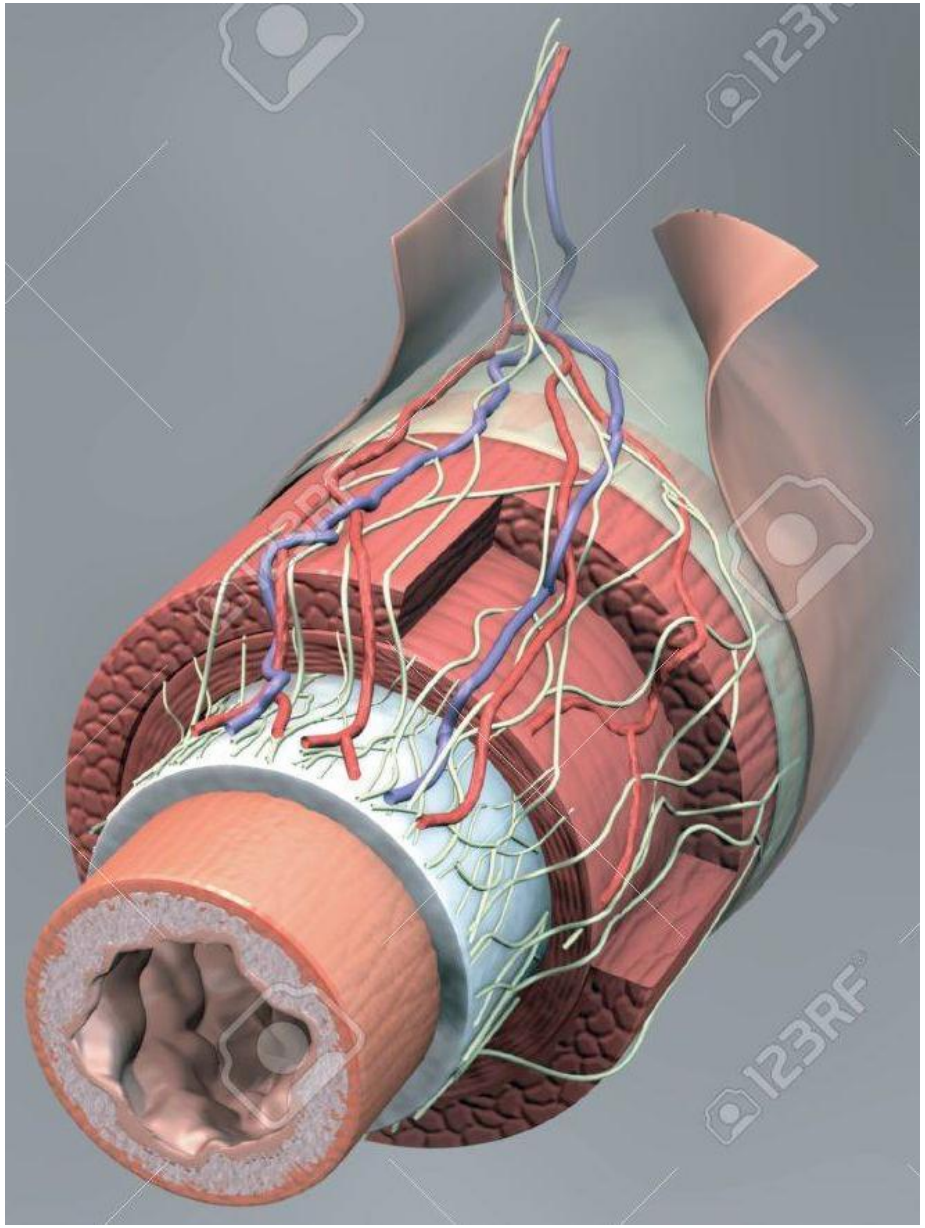
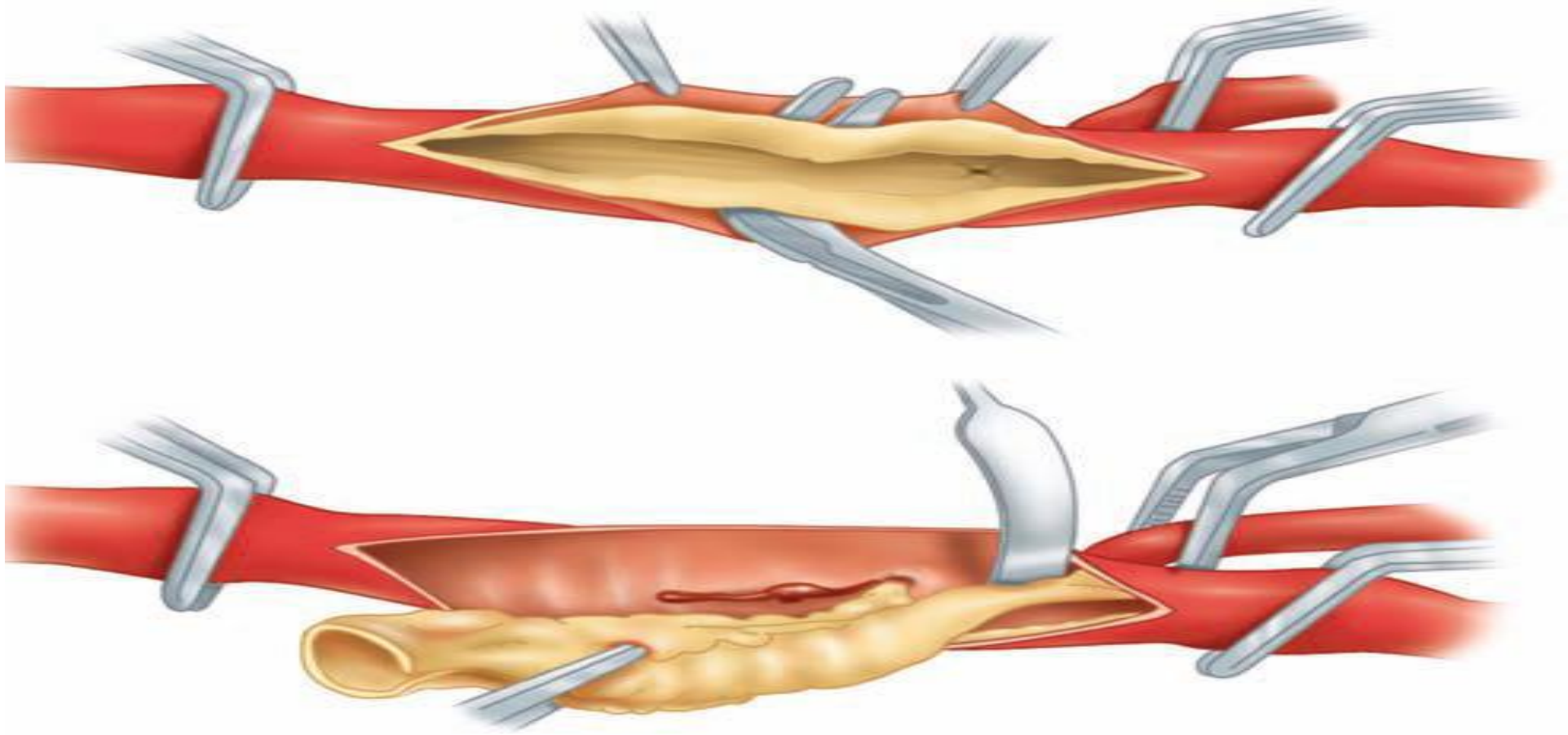


FIG. 98. — *Schéma très simple de l'appareil circulatoire artériel de l'Homme.*

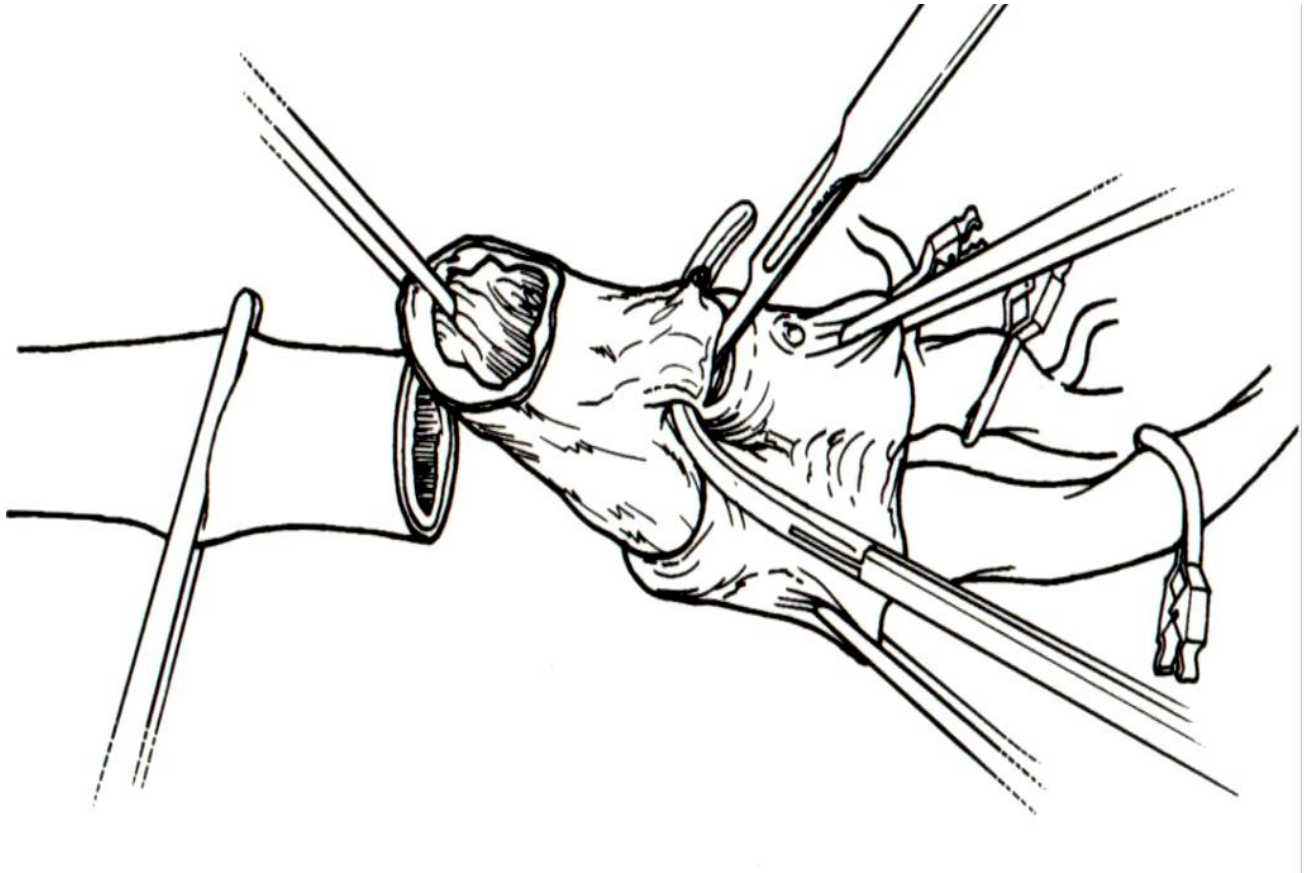


1.3. Endartériectomie à l'anneau de Vollmar

1.4. Endartériectomie à ciel ouvert



1.5. Endartériectomie par retournement



1.6. Les variantes techniques

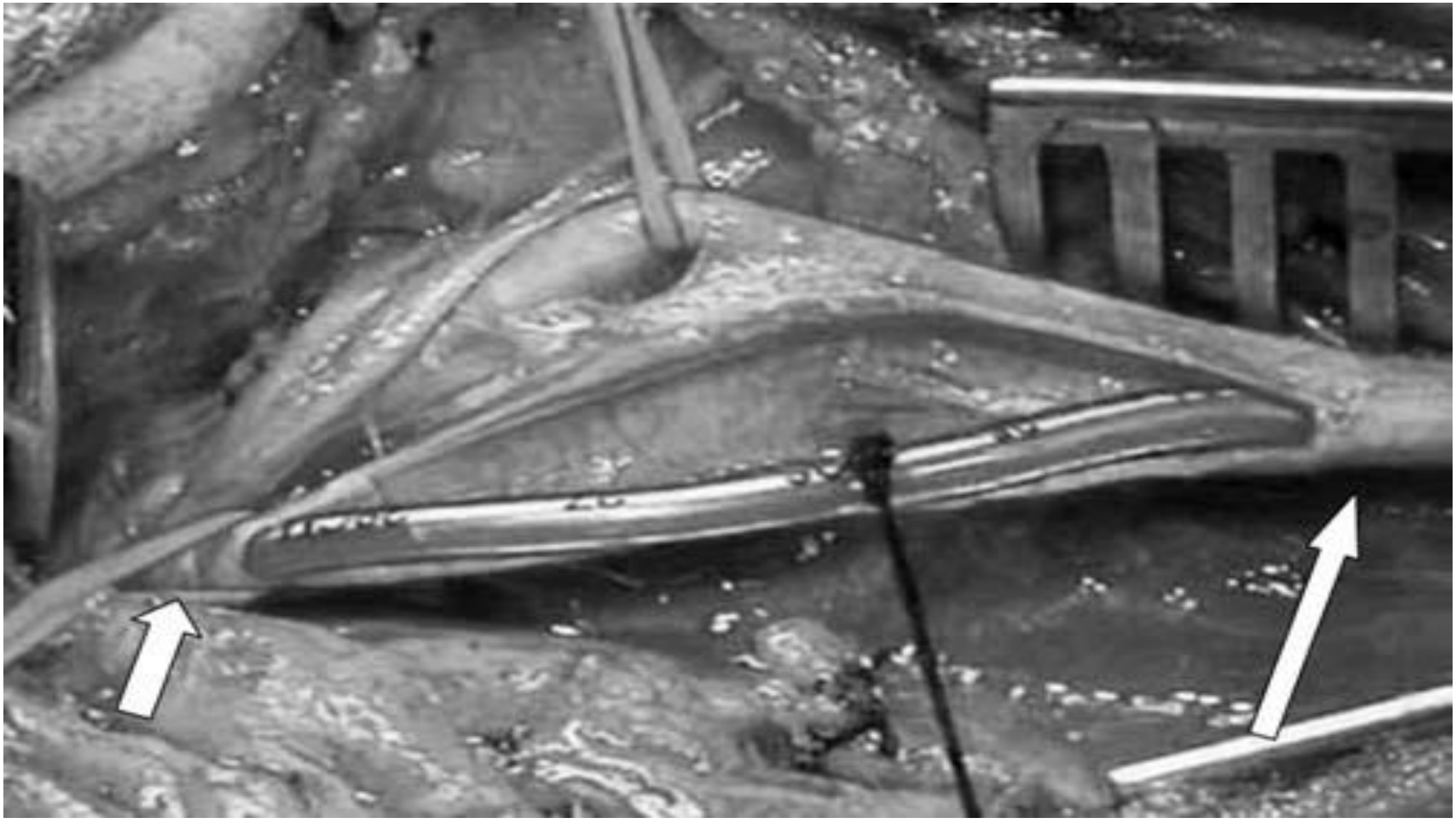
- Endartériectomie par carbodissection par injection de gaz carbonique sous pression

- Hydrodissection :
  - Même principe que ci-dessus
  - Gaz carbonique est remplacé par du sérum salé

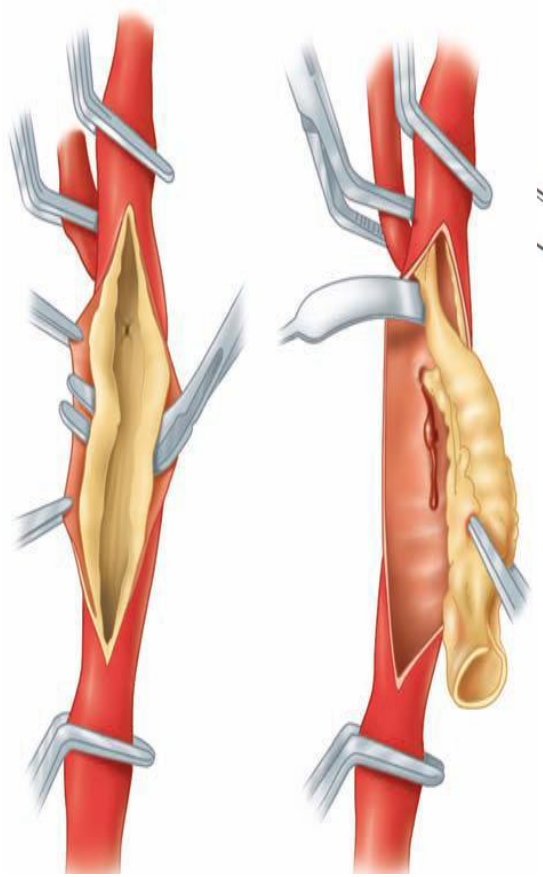
- Oscillateur de Hall

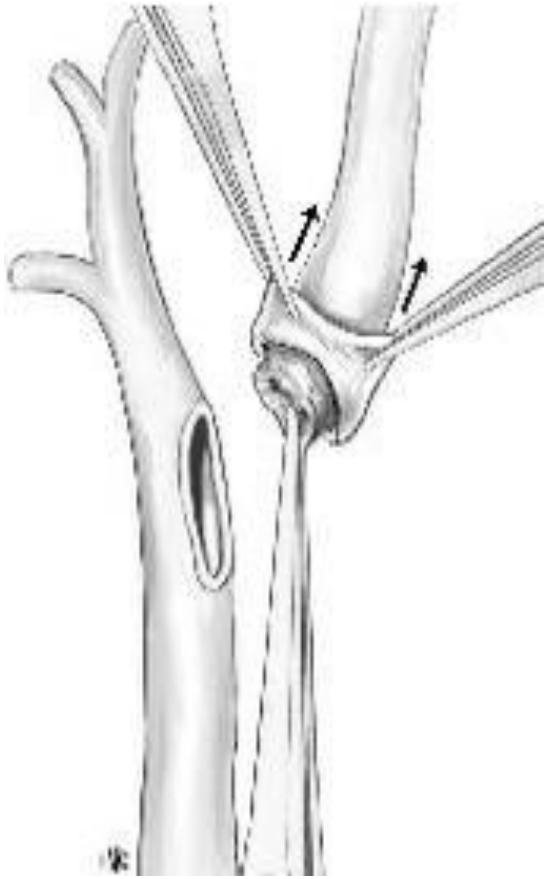
1.7. Le cas particulier de la carotide

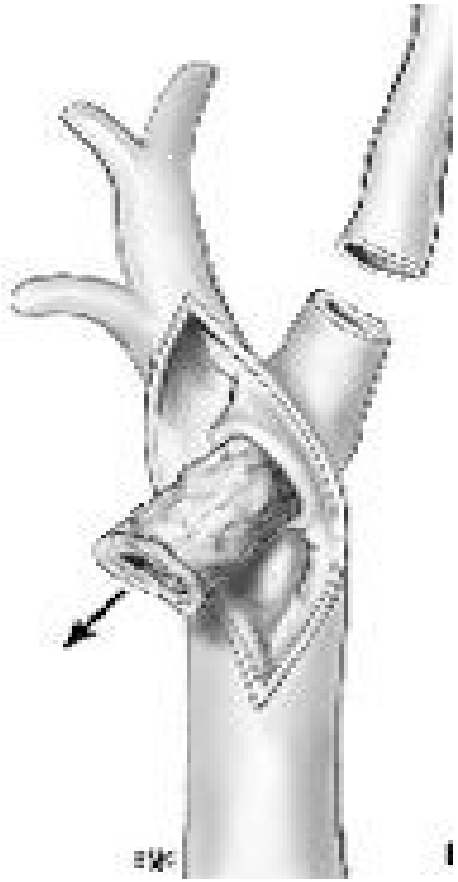
- Nécessité évaluation neurologique pré et post opératoire (neurologue)
- Anesthésie locale ,ou générale
- Héparinothérapie avant clampage artériel
- Monitoring peropératoire
  - Réponse aux questions et mobilité du membre thoracique homolatérale
  - EEG peropératoire
  - Doppler transcrânien : dimunition de 50% = signe d'IC
- Shunt carotidien interne



1.7. Le cas particulier de la carotide (suite)







Ciel ouvert

Etheredge

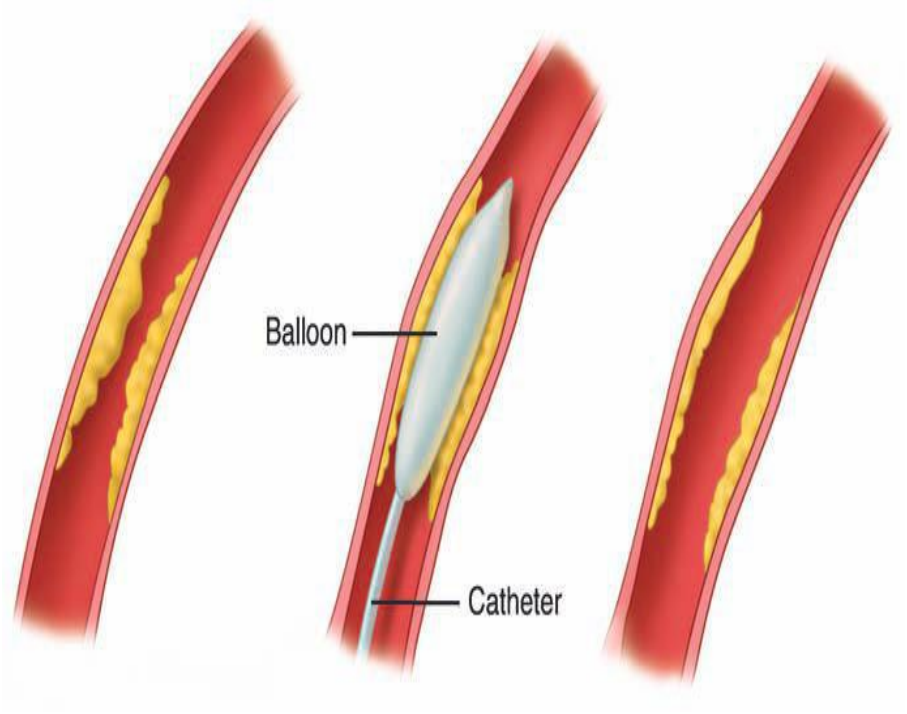
Van Maele

Chevalier

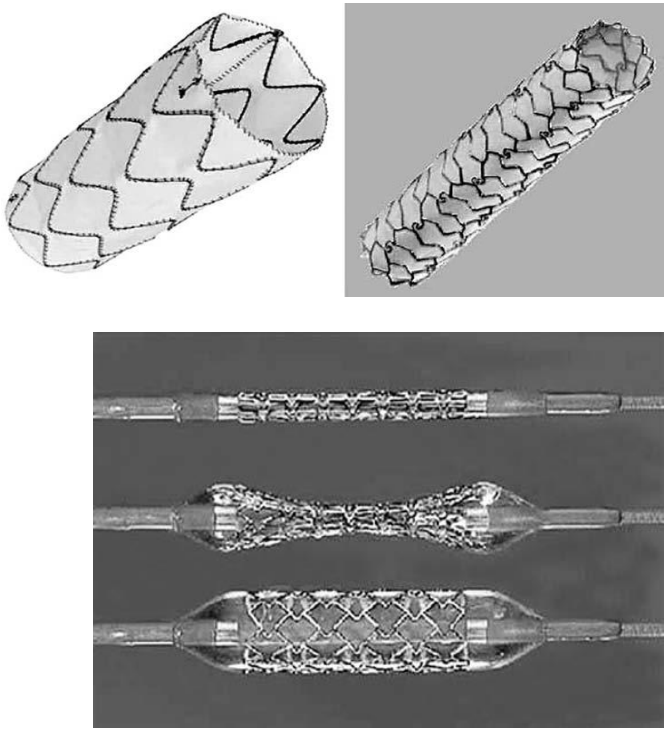
Par retournement

1.7. Le cas particulier de la carotide (suite)

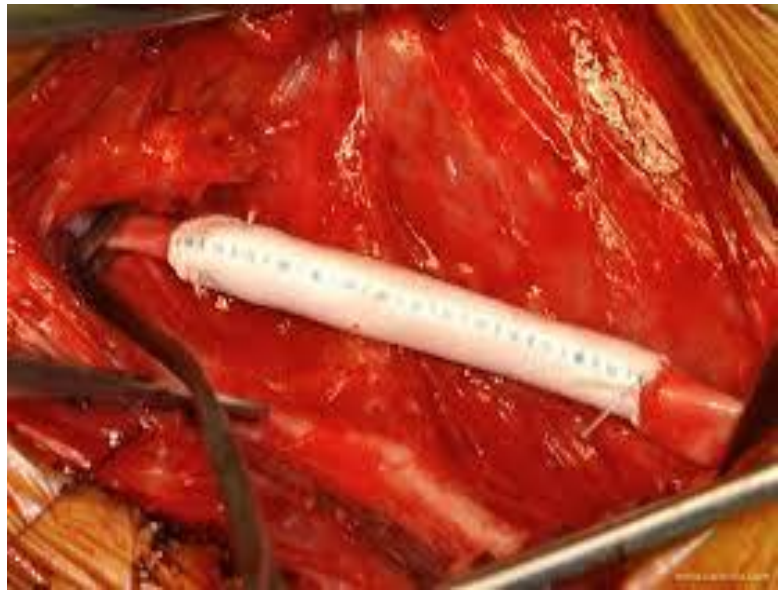
- A part :



Angioplastie percutanée



Stent



Techniques endovasculaires

Remplacement prothétique

AHA/ACC GUIDELINE

2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease: Executive Summary

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

ESC
European Society of Cardiology

European Heart Journal (2017) **00**, 1–60
doi:10.1093/eurheartj/ehx095

ESC GUIDELINES

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

Document covering atherosclerotic disease of extracranial carotid and vertebral, mesenteric, renal, upper and lower extremity arteries

Endorsed by: the European Stroke Organization (ESO)

Recommendations on revascularization in patients wit symptomatic carotid disease*

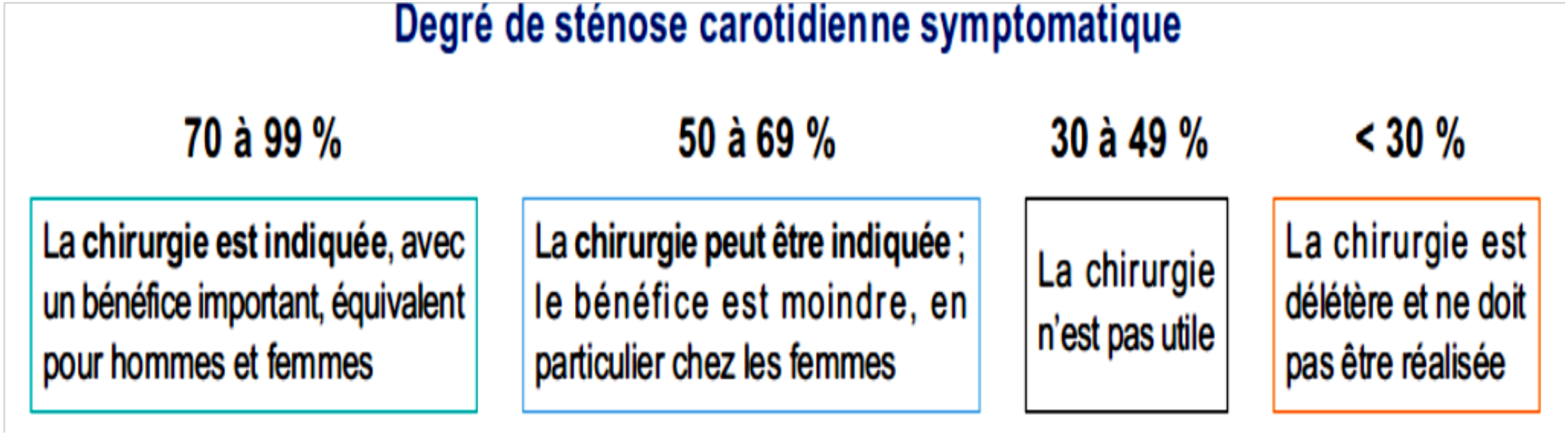
Recommendations	Class[a]	Level[b]
CEA is recommended in symptomatic patients with 70–99% carotid stenoses, provided the documented procedural death/stroke rate is < 6%.[138,147]	I	A
CEA should be considered in symptomatic patients with 50–69% carotid stenoses, provided the documented procedural death/stroke rate is < 6%.[138,147]	IIa	A
In recently symptomatic patients with a 50–99% stenosis who present with adverse anatomical features or medical comorbidities that are considered to make them 'high risk for CEA', CAS should be considered, provided the documented procedural death/stroke rate is < 6%.[135,145,152]	IIa	B
When revascularization is indicated in 'average surgical risk' patients with symptomatic carotid disease, CAS may be considered as an alternative to surgery, provided the documented procedural death/stroke rate is < 6%.[152,153]	IIb	B
When decided, it is recommended to perform revascularization of symptomatic 50–99% carotid stenoses as soon as possible, preferably within 14 days of symptom onset.[138,154,155]	I	A
Revascularization is not recommended in patients with a < 50% carotid stenosis.[138]	III	A

Recommendations for management of asymptomatic carotid artery disease

Recommendations	Class[a]	Level[b]
In 'average surgical risk' patients with an asymptomatic 60–99% stenosis, CEA should be considered in the presence of clinical and/or more imaging characteristics[c] that may be associated with an increased risk of late ipsilateral stroke, provided documented perioperative stroke/death rates are <3% and the patient's life expectancy is > 5 years.[116]	IIa	B
In asymptomatic patients who have been deemed 'high risk for CEA'[d] and who have an asymptomatic 60–99% stenosis in the presence of clinical and/or imaging characteristics[c] that may be associated with an increased risk of late ipsilateral stroke, CAS should be considered, provided documented perioperative stroke/death rates are <3% and the patient's life expectancy is > 5 years.[135,136]	IIa	B
In 'average surgical risk' patients with an asymptomatic 60–99% stenosis in the presence of clinical and/or imaging characteristics[d] that may be associated with an increased risk of late ipsilateral stroke, CAS may be an alternative to CEA provided documented perioperative stroke/death rates are <3% and the patient's life expectancy is > 5 years.[110,129,132,137]	IIb	B

2.1. Endartériectomie carotidienne

STÉNOSES ATHÉROSCLÉREUSES SYMPTOMATIQUES



IC non invalidante
AIT de moins de 6 mois
AVC < 6%

2.1. Endartériectomie carotidienne

STÉNOSES ATHÉROSCLÉREUSES ASYMPTOMATIQUES

Degré de sténose carotidienne asymptomatique

≥ 60 %	< 60 %
Un geste de revascularisation par **chirurgie** carotidienne peut être proposé en fonction de différents éléments (espérance de vie, paramètres hémodynamiques et anatomiques, évolutivité de la sténose…) par des équipes chirurgicales, dont le taux attendu de morbi-mortalité à J 30 est inférieur à 3 %.	La revascularisation n'est pas indiquée.

Espérance de vie > 5 ans
Documents paracliniques

2.1. Endartériectomie carotidienne

STÉNOSES RADIQUES ET RESTÉNOSES POST-CHIRURGICALES

La chirurgie n’est pas indiquée

2.1. Endartériectomie carotidienne

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Endarterectomy versus Stenting in Patients with Symptomatic Severe Carotid Stenosis

Table 3. Risk of Stroke or Death and Other Treatment-Related Outcomes within 30 Days after Endarterectomy or Stenting.*

Outcome Event	Endarterectomy (N=259)	Stenting (N=261)	Unadjusted Relative Risk (95% CI)	P Value
	no. of patients (%)			
Nonfatal stroke	7 (2.7)†	23 (8.8)‡	3.3 (1.4–7.5)	0.004
Symptoms lasting 7 days or more	6 (2.3)	20 (7.7)		
Nondisabling	6 (2.3)	16 (6.1)		
Disabling§	1 (0.4)	7 (2.7)		
Death	3 (1.2)	2 (0.8)	0.7 (0.1–3.9)	0.68
Fatal stroke	2 (0.8)†	1 (0.4)‡		
Other cause	1 (0.4)¶	1 (0.4)‖		
Any stroke or death	10 (3.9)	25 (9.6)	2.5 (1.2–5.1)	0.01
Any disabling stroke or death	4 (1.5)	9 (3.4)	2.2 (0.7–7.2)	0.26
Transient ischemic attack	2 (0.8)	6 (2.3)	3.0 (0.6–14.6)	0.28
Myocardial infarction**	2 (0.8)	1 (0.4)	0.5 (0.04–5.4)	0.62
Bradycardia or hypotension††	0	11 (4.2)	Not computable	<0.001
Systemic complications	8 (3.1)‡‡	5 (1.9)§§	0.6 (0.2–1.9)	0.42

2.2. Endartériectomie artère vertébrale

Recommendations for management of vertebral artery stenoses

Recommendations	Class[a]	Level[b]
In patients with symptomatic extracranial vertebral artery stenoses, revascularization may be considered for lesions ≥50% in patients with recurrent ischaemic events despite optimal medical management.[159,160,162]	IIb	B
Revascularization of asymptomatic vertebral artery stenosis is not indicated, irrespective of the degree of severity.	III	C

- Portion extracrânienne uniquement
- Centre expert

2.3. Endartériectomie aorte terminale et artères MI

Recommendations	Class[a]	Level[b]
An endovascular-first strategy is recommended for short (i.e. <5 cm) occlusive lesions.[291]	I	C
In patients fit for surgery, aorto-(bi)femoral bypass should be considered in aorto-iliac occlusions.[281,292,293]	IIa	B
An endovascular-first strategy should be considered in long and/or bilateral lesions in patients with severe comorbidities.[288,294,295]	IIa	B
An endovascular-first strategy may be considered for aorto-iliac occlusive lesions if done by an experienced team and if it does not compromise subsequent surgical options.[76,281–283,286]	IIb	B
Primary stent implantation rather than provisional stenting should be considered.[294–296]	IIa	B
Open surgery should be considered in fit patients with an aortic occlusion extending up to the renal arteries.	IIa	C
In the case of ilio-femoral occlusive lesions, a hybrid procedure combining iliac stenting and femoral endarterectomy or bypass should be considered.[297–300]	IIa	C
Extra-anatomical bypass may be indicated for patients with no other alternatives for revascularization.[301]	IIb	C

2.4. Endartériectomie particulière

- Endartériectomie des artères coronaires : en association à une chirurgie ouverte de revascularisation

- Endartériectomie de l'aorte et des artères iliaques communes
  - Lésions courtes : 5 à 6 cm
  - Procédures inhabituelles

CONCLUSION

- Endartériectomie carotidienne = geste de prévention secondaire
- Artère de calibre moyen surtout à destinée cérébrale
- Résultat optimal en association avec un traitement médical bien conduit