

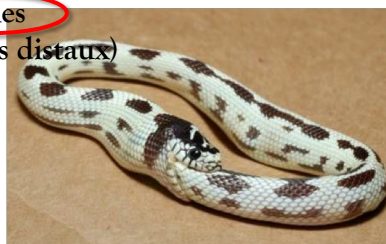
ISCHÉMIE DE MEMBRE LIÉE AUX ABORDS VASCULAIRES : PRÉVENTION DIAGNOSTIC et PRINCIPES DU TRAITEMENT

CFPV 2018

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Clinique Arago
75014 PARIS

ETIOLOGIES DES ISCHÉMIES DIGITALES

- 1) Prises médicamenteuses
- 2) Maladies vibratoires et trauma répétés
- 3) Maladies systémiques et connectivites
(sclérodémie, crest, Sjögren, Sharp,
dermatomyosite, LED, cryoglobulinémie)
- 4) Artérite distale juvénile (tabac+++)
- 5) Sd du défilé cervicothoracique
- 6) Sd d'hyperviscosité, Sd myeloprolifératifs,
Thrombophilie...
- 7) Iatrogènes : KT artériels, **Fistules**
- 8) Causes cardiogéniques (embolies distales)
- 9) Causes infectieuses, tumorales



HEMODIALYSIS ACCESS-INDUCED DISTAL ISCHEMIA (HAIDI) DISTAL HYPOPERFUSION ISCHEMIC SYNDROME(DHIS) ARTERIOVENOUS ACCESS ISCHEMIC STEAL(AVAIS)

EBPG on Vascular Access(2007)

Guideline 9.1. Access-induced ischaemia should be detected by clinical investigation and the cause should be identified by both non-invasive imaging methods and angiography (Evidence level III).

Guideline 9.2. Enhancement of arterial inflow, access flow reduction and/or distal revascularization procedures are the therapeutic options. When the above methods fail, access ligation should be considered (Evidence level II).

Diagnostic parfois difficile :
Intrication à la neuropathie

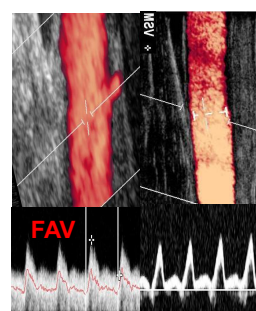
Diagnostic Positif
Choix du Traitement
Doivent être basés sur des arguments anatomiques et fonctionnels

HEMODYNAMIQUE et FAV

Creation de l'AAV



- Division par 2 de l'IR du circuit
- Augmentation du débit absolu du MS
- Reduction du flux des extrémités
- 10 to 20% de vol ischémique
- dont
 - 4% REINTERVENTION



RI:0.48 RI:1

Hubert TS ,Access-related hand ischemia and the Hemodialysis Fistula Maturation Study
J.Vasc Surg 2016

ORIENTATION CLINIQUE des COMPLICATIONS ISCHEMIQUES

TISSULAIRES

Stade I	Hémodétournement pauci symptomatique Paleur Refroidissement Diminution de Pression Digitale
Stade II a	Engourdissement Crampe Refroidissement Douleur à l'exercice et ou en dialyse: Tolérable
Stade II b	Engourdissement Crampe Refroidissement Douleur à l'exercice et ou en dialyse: Intolérable
Stade III	Douleur permanente Impotence
Stade IV a	Troubles trophiques limités-dysfonction réversible
Stade IV b	Troubles trophiques irréversibles : amputation

NEUROLOGIQUES

ISCHEMIE MONOMELIQUE AIGUE

**Discordance
clinique /paraclinique**

FERMETURE

Bolton DF. J Neurol Neurosurg Psych 1979
 Wilbourn AJ. Neurology 1983
 Schelting MR. Eur J Vasc Endovasc Surg. 2012

ISCHEMIE/TIMING

PRECOCE : 1 ER MOIS

Vol sans ischémie critique sans défaut de maturation : **Pb d'adaptation**

Vol avec ischémie sévère + défaut de maturation : bas Q⁰(double peine) Arteriopathie++

APRES MISE EN DIALYSE

Variation Tensionnelle et Volémique aggravant le vol QUI DEVIENT ischémique

Evolution de la maladie athéromateuse ou d'une vascularite

Iatrogénie : Ponction artérielle(dissection Fx anévrisme Embol Occlusion)

Embol : Dégénérescence Anévrismale

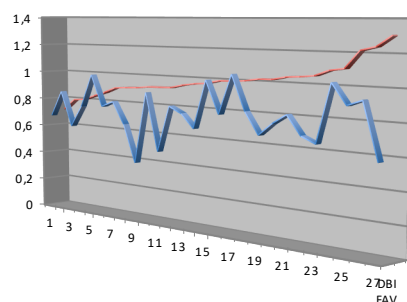
Anévrisme de l'AC

Moignon de FAV

EBPg on Vascular Access
 Guideline 9.1.

Access-induced ischaemia should be detected by clinical investigation and the cause should be identified by both non-invasive imaging methods and angiography .
 Nephrol. Dial. Transplant. (2007)

FAV ET PERFUSION DISTALE



FAV ENTRAINE UNE CHUTE DE Pressions de 30 mm de Hg et 15% du DBI

	FAV	OPPOSE
P DIGIT (mm Hg)	99	128
DBI	0.77	0.89

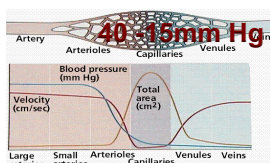
ISCHEMIE STADE III ou IV

INCIDENCE GLOBALE :10%

- **1–2% AVF au poignet**
- **5–15% AVF au coude**
- **36% AVF à la cuisse**

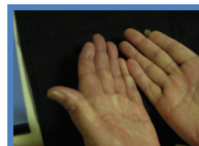
*Konner K. Kidney Int 2002
Odland MD.Surgery 1991
Schanzer HJ. Vasc Surg 1992
Berman SS.J Vasc Surg 1997
Keuter .EJVES 2008
Gradman WS.JVascSurg 2005*

SEUILS DE PRESSION

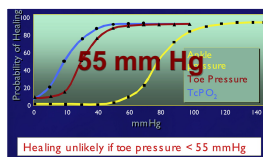


Pression critique :
Variable avec tonus
40-15 mmHg

HYPOXIE SOUS CE SEUIL



ISCHEMIE CRITIQUE



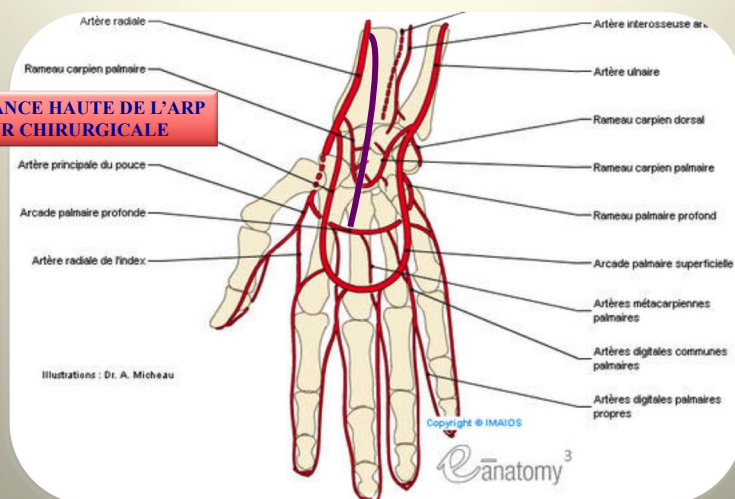
CONDITION DE CICATRISATION



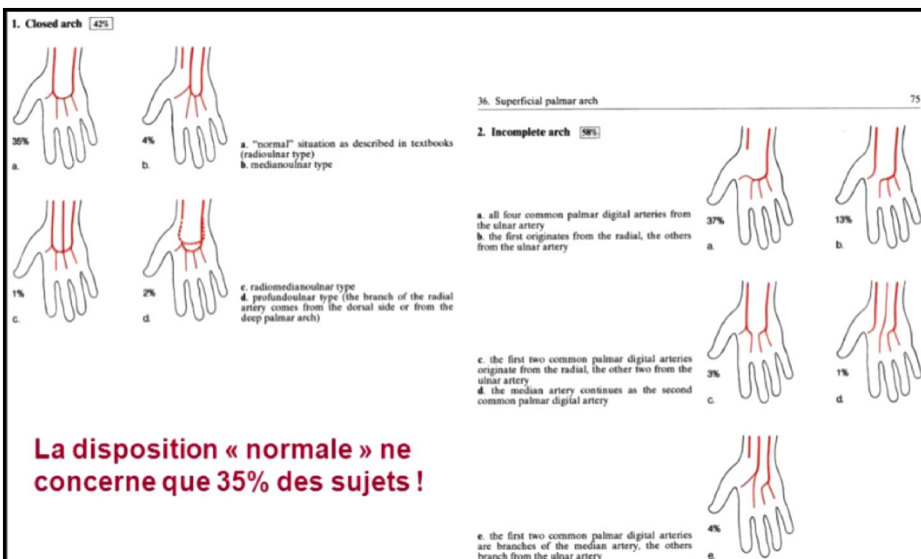
PARTICULARITES ANATOMIQUES

VASCULARISATION DE LA MAIN

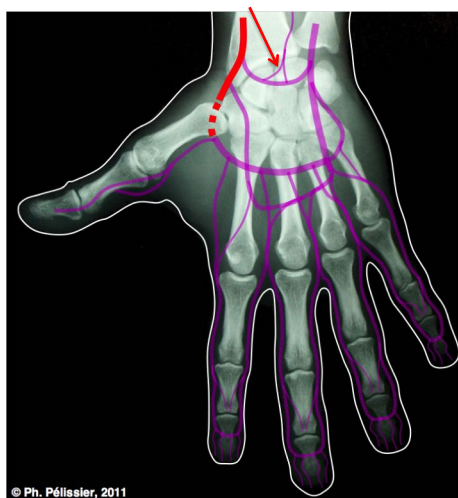
**NAISSANCE HAUTE DE L'ARP
ERREUR CHIRURGICALE**



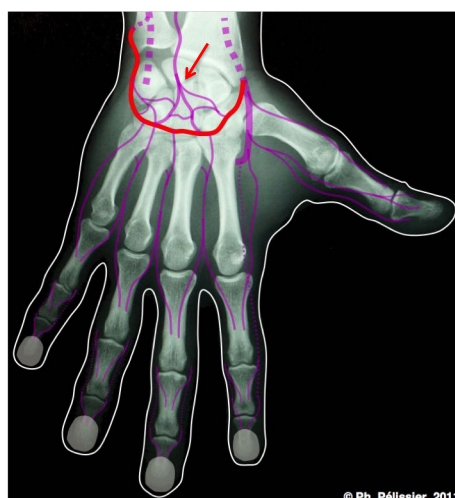
ARCADE PALMAIRE SUPERFICIELLE



ARCADES ACCESSOIRES

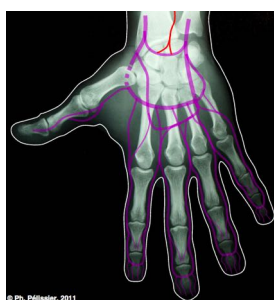


**Arcade du Carpe
IO antérieure**

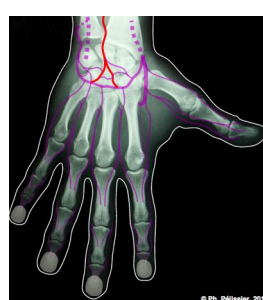


**Arcade dorsale
IO postérieure**

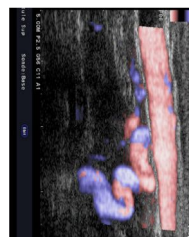
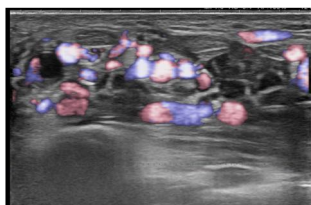
ARCADES DU CARPE



FACE PALMAIRE



FACE DORSALE



VOL ISCHEMIQUE

ASSOCIATION DE PLUSIEURS FACTEURS à des DEGRES DIVERS

- HEMODETOURNEMENT
- DEBIT(HAUT DEBIT RARE)
- LESIONS ATHEROMATEUSES D'AMONT
(PROXIMALE 5 à 30 % suivant les séries)
- ARTERIOPATHIE DISTALE ++
- OBSTACLE AU RETOUR VEINEUX

CHUTE DE PRESSION DIGITALE < SEUIL ISCHEMIQUE

VOL ISCHÉMIQUE SYMPTOMATIQUE

Dépend plus de la sévérité de l'AOMS que du DÉBIT.

*Konner K. Kidney Int 2002
Wixon CLJ Am Coll Surg (2000)
Sivanesan S. Nephrol Dial Transplant (1998)
Berman SS. J Vasc Surg 1997
Haimov M. Blood Purif (1996)
Schanzer HJ. Vasc Surg 1992*

HEMODETOURNEMENT

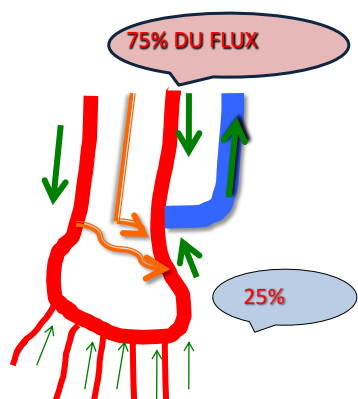
CONSTANT à des DEGRES DIVERS

FAV DISTALE ≠ FAV PROXIMALE

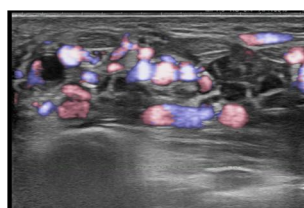
FONCTION DE L'ANATOMIE et de ses VARIATIONS

FAV PROXIMALE SUR BIFURCATION HAUTE = FAV DISTALE

HEMODETOURNEMENT PERMANENT $\neq$ VOL ISCHEMIQUE

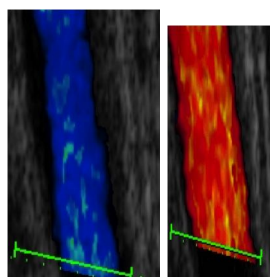


AR distale de flux retrograde CONSTANT
en
SITUATION ANATOMIQUE NORMALE
mais
Il y a d'autres voies plus tenues

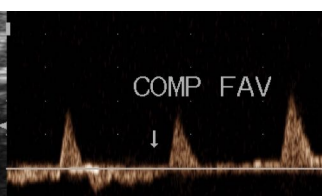
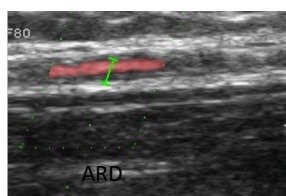
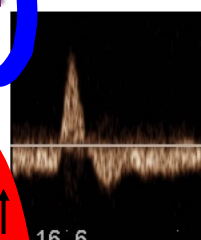
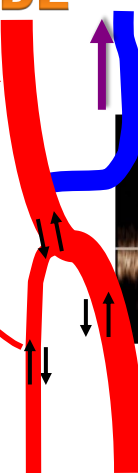


Duncan H, Ferguson L, Faris I. Incidence of the radial steal syndrome in patients with Brescia fistula hemodialysis: its clinical significance. *J Vasc Surg* 1986

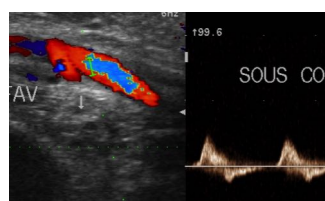
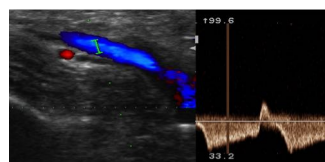
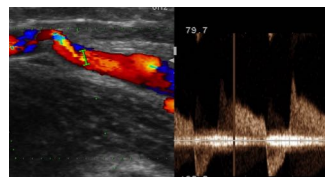
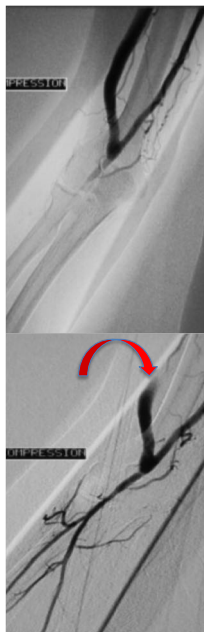
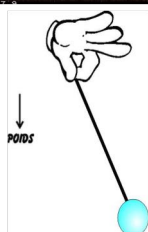
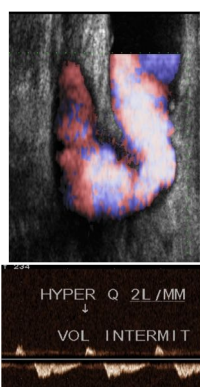
FAV AU COUDE



HD INTERMITTENT ou PERMANENT SOUS AAV
HD PERMANENT quasi constant SI BIF HAUTE



HYPERDEBIT : MECANISME DU VOL ISCHEMIQUE d'une FAV au coude



FLUX
PENDULAIRE

Explorations non Invasives

✓ Duplex scan

✓ PPG

Laser doppler
Capillaroscopie
TC PO2
Oxymètres de pouls
Spectrométrie

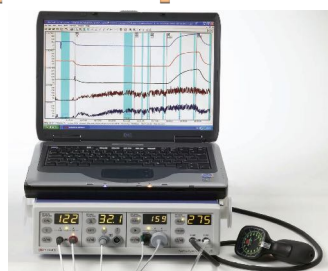
PHOTOPHLETYSMOGRAPHIE IR



OXYMETRY: TcpO2 / SpO2



TcpO2



SpO2

Pas fiable si l'amplitude de l'onde pulsatile est médiocre
L'hypotension hypothermie et l'ischémie en limitent l'emploi

OXYMETRE DE POULS



IMAGEUR LASER A BALAYAGE



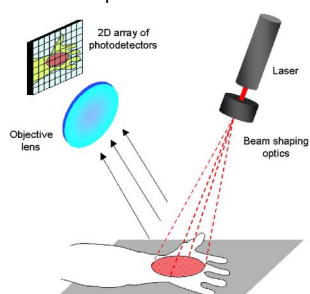
- Multi channel laser Doppler line
- sweep across the tissue gathering data
- from 64 points simultaneously



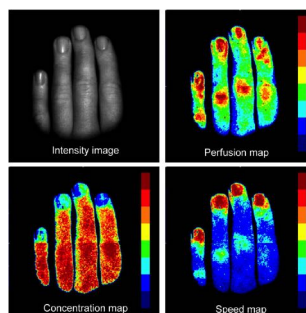
- tissue blood flow
- skin perfusion pressure
- pulse volume
- limb and toe pressure
- post occlusive reactive hyperaemia

IMAGERIE DE PERFUSION LASER DOPPLER

- Measurements of blood perfusion over a larger area are of interest
- Non-invasive, non-contact measurements
- Visualizes spatial variations in blood perfusion

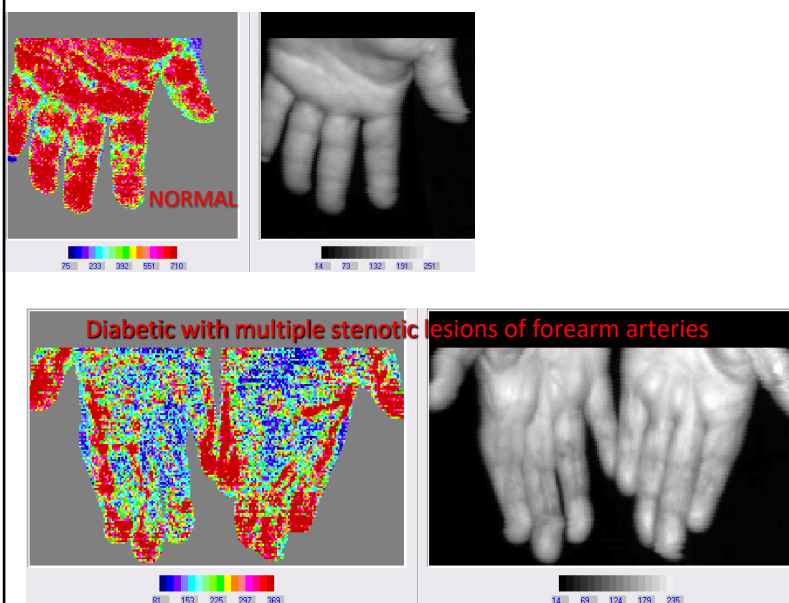


Schematic drawing of a high-speed laser Doppler blood flow imager

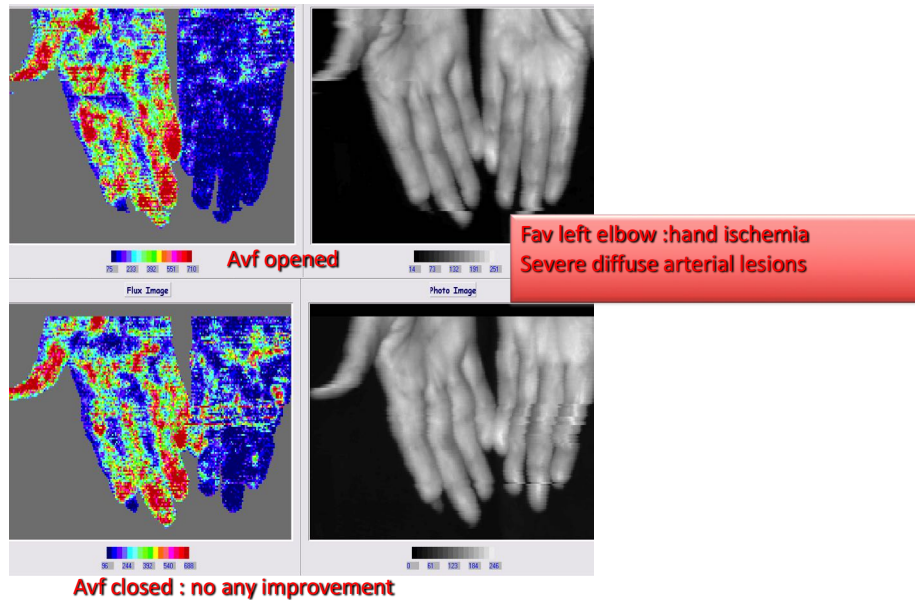


Perfusion /concentration/ speed signals

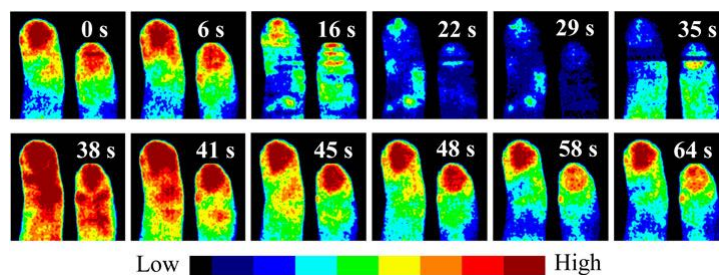
EVALUATION GLOBALE DE L'ISCHEMIE



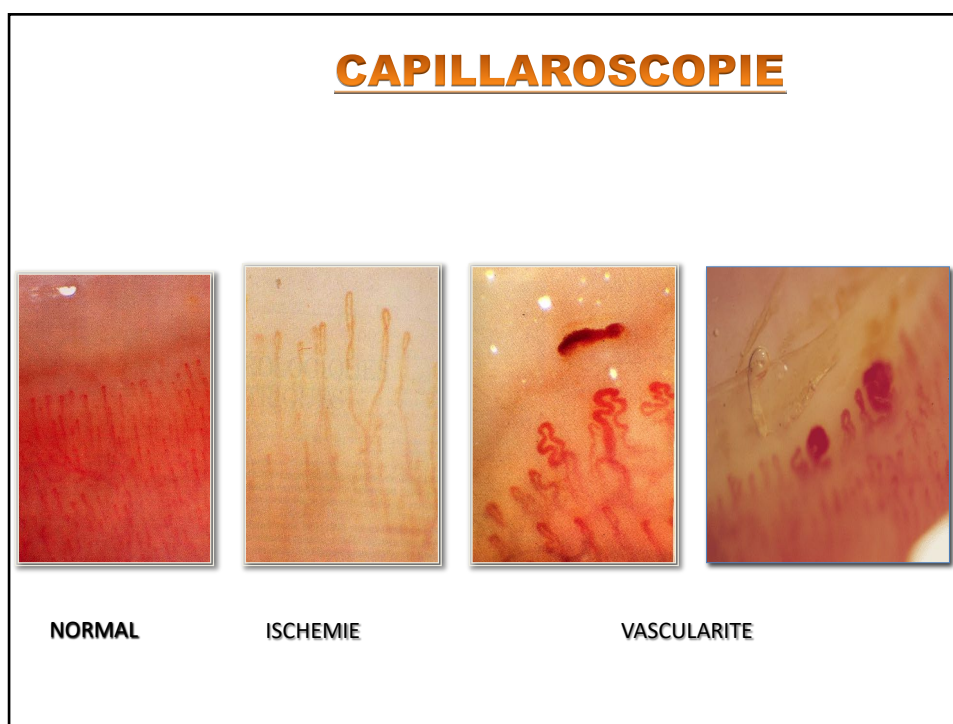
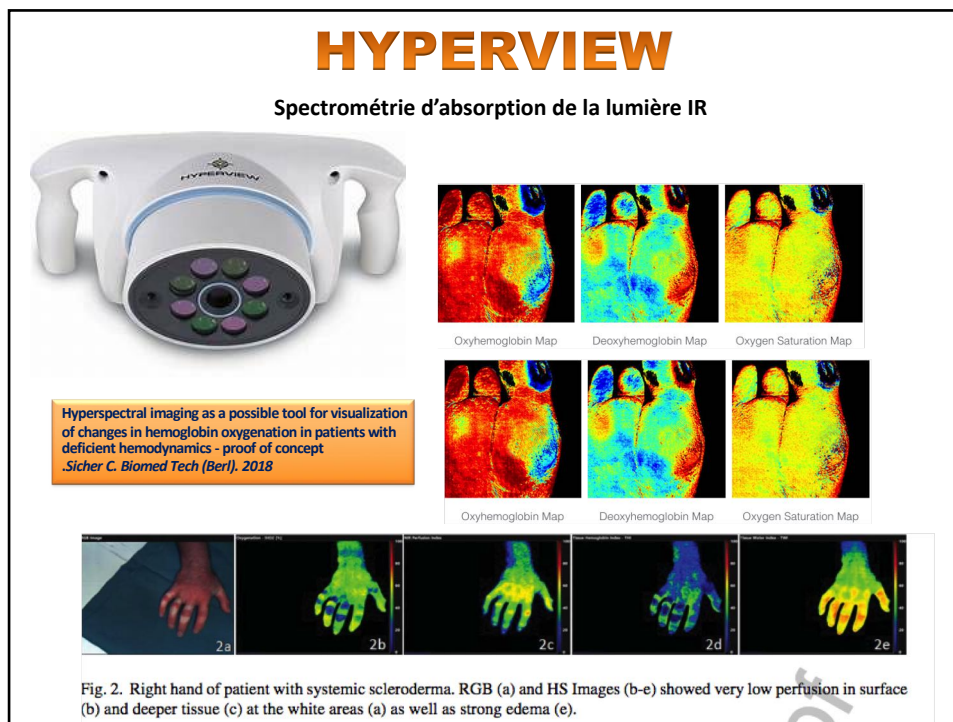
VOL ISCHEMIQUE SEVERE



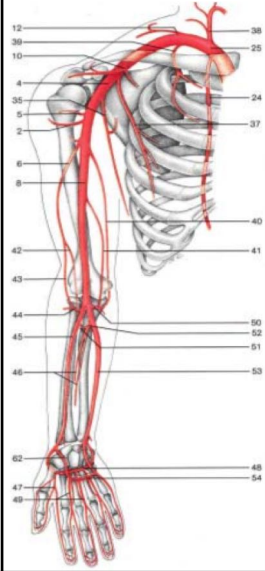
Test de Compression



A series of perfusion images (256 × 256 pixels) obtained during the arm artery occlusion experiment
 The imaging time is 3 seconds per image. Numbers show the relative time when the image was obtained



BILAN VASCULAIRE



- FAV et CALCUL DU DEBIT
- US DE LA CROSSE JUSQU' AUX ARTERES DIGITALES

+

- PRISE DES PRESSIONS DIGITALES
- TEST DE COMPRESSION

↓

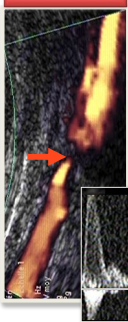
COMMENT AMELIORER
LA PRESSION DISTALE ?

↓

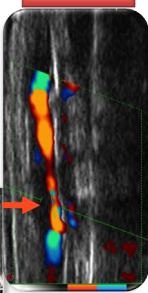
REDUCTION DE DEBIT
TRAITEMENT DES STENOSES
REDUCTION DU VOL
FERMETURE

LESIONS ARTERIELLES

ST +++A.H



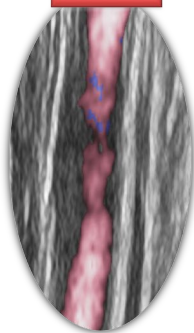
ST A.R ++



OCCLUSION A.U



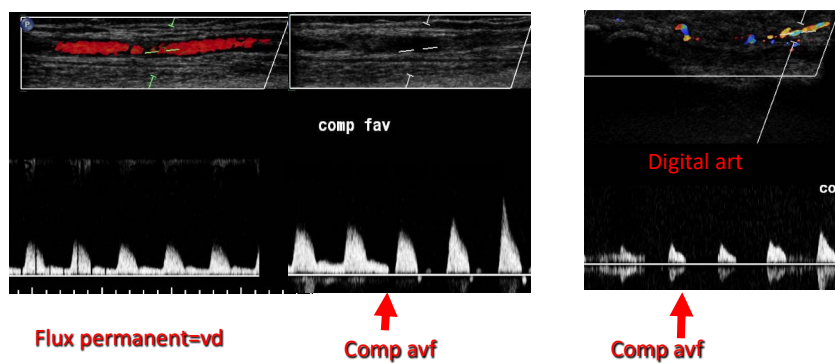
ST A.U++



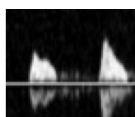
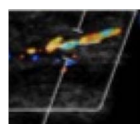
VOL SANS ISCHEMIE

PRESSION DIGITALE SUB NORMALE

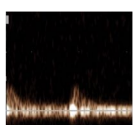
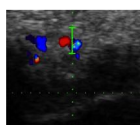
Vaisseaux normaux



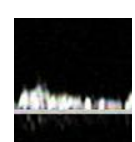
STATUT DE LA PERFUSION PULPAIRE



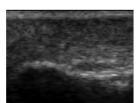
ST I FLUX SUB N



ST II FLUX PEU DEGRADE



ST III FLUX DEGRADE

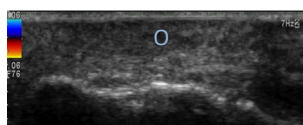
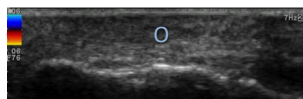


ST IV FLUX NON PERCU

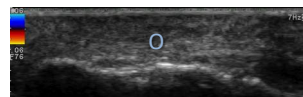
STATUT DE LA PERFUSION PULPAIRE

Tests de compressions

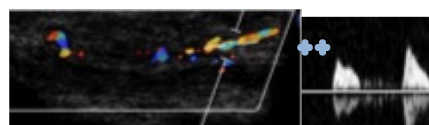
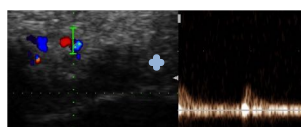
FAV OUVERTE



FAV FERMEE



ST III et IV Flux distaux effondrés BDP :++ ↓



ST I et II Flux distaux sub normaux BDP +/- ↓

Paramètres de pression étudiés

- ✓ (BDP) :basal digital pressure
- ✓ (DBI) :digital brachial index

TEST DE COMPRESSION UTILE à ORIENTATION THERAPEUTIQUE

- ✓ (CDPAC) :change in digital pressure with access compression
- ✓ (CDPDC) : change in digital pressure with distal compression

L'exploration ne doit pas se limiter au seul doigt cliniquement ischémique
Ischemie silencieuse ?

PRESSION DIGITALE et TEST de COMPRESION

- FAIT LA PART DU VOL ET DE L'ARTERIOPATHIE
- APPORTE DES PREUVES à L'UTILITE DE LA CORRECTION DU VOL
- ☐
- DP SOUS COMPRESSION de la FAV  > 20% et ou > seuil ischémique (facteur pronostic+)

- ✓ (CDPAC) : change in digital pressure with access compression
Efficacité du DRIL et PAI si FAV au coude
Efficacité de fermeture quelque soit le niveau de la FAV
Proportionnelle à l'importance du vol
- ✓ (CDPDC) : change in digital pressure with distal compression
Efficacité de la ligature distale /PLUG
Valeur de l'artère cubitale et Arcades palmaires

PRESSION DIGITALE et DIAGNOSTIC du VOL ISCHEMIQUE

- CONFIRMATION DIAGNOSTIC
- DIAGNOSTIC DIFFERENTIEL
- ORIENTATION THERAPEUTIQUE

BDP:Presssion digitale <60 mmHg (sens. 100%, spec. 87%)

DBI:Digital Brachial Index <0.4 (sens. 92%, spec. 94%)

*Odland MD .Surgery 1991
Lazarides MK J Am Coll Surg 1998
Schanzer A. Vasc Med 2006
Goff CD .Ann Vasc Surg 2000*

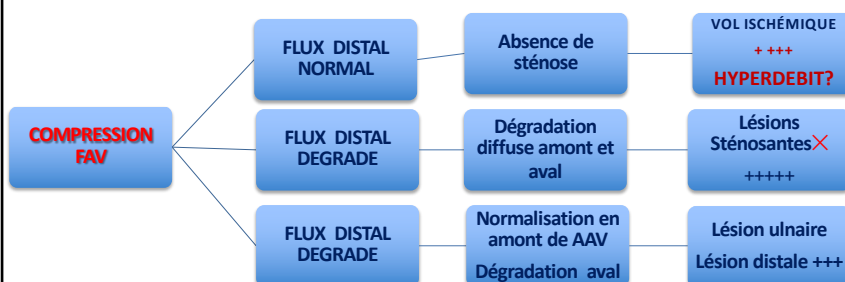
PRESSION DIGITALE APRES CREATION

AUTHORS	BDP mm Hg				DBI				CDP mmHg			
	S	p	AS	p	S	p	AS	p	S	p	AS	p
Papasavas PK 2003					0,4	0,01	0,7	0,01				
Schanzer A 2006	30	0,01	102	0,01	0,3	0,001	0,8	0,001	85	0,001	40	0,001
Vaes RH 2013	22 +/-10	0,1	102 +/-10	0,1	0,18 +/-0,8	0,1	0,7 +/-0,08	0,1	46	0,3	26	0,3
Modaghegh MH 2014	61 +/-26	0,01	114 +/-38	0,01	0,44 +/-0,16	0,01	0,82 +/-0,19	0,01	57 +/-24	0,01	19 +/-17	0,01
Journet J 2012			99 +/-32				0,72 +/-23					

S:SYMPTOMATIQUE AS:ASYMPTOMATIQUE

NIVEAU DES LESIONS/FAV

Tests de compression
Etudes séquentielles US

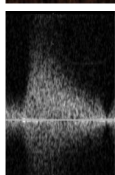


ISCHEMIE/FAV COUDE: Q°. Normal

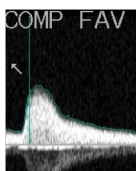
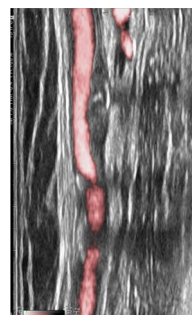


Artère ulnaire occluse
AR perfuse la main

Artère radiale proximale de flux sub normal



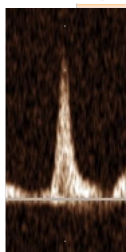
Sténose serrée distale



COMPRESSION DE L'AAV:

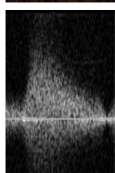
- Dégradation persistante d'aval
- Pressions dégradées

ISCHEMIE/FAV COUDE: Q. N

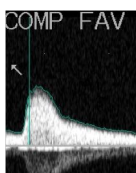
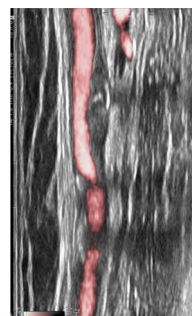


Artère ulnaire occluse
AR perfuse la main

Artère radiale proximale de flux sub normal



Sténose serrée distale

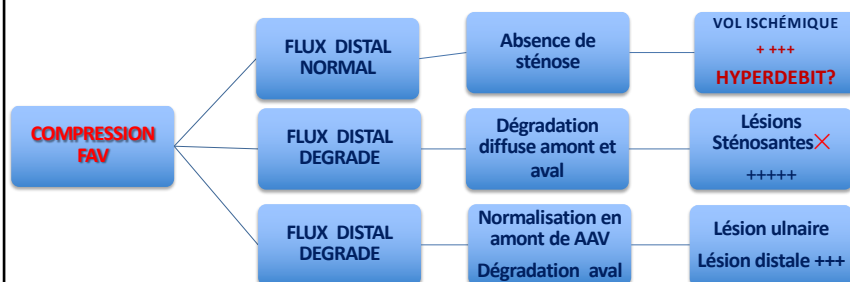


COMPRESSION DE L'AAV:

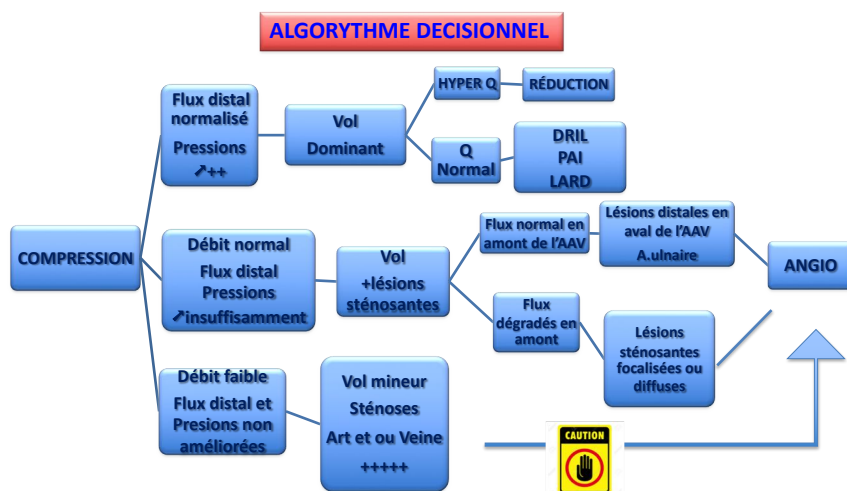
- Dégradation persistante d'aval
- Pressions dégradées

NIVEAU DES LESIONS/FAV

Tests de compression
Etudes séquentielles US



COMBINAISON BILAN US et PRESSIONS



PRESSION DIGITALE ET TRAITEMENT DE L'ISCHEMIE

TEST DE COMPRESSION UTILE à L'ORIENTATION THERAPEUTIQUE

- FAIT LA PART DU VOL ET DE L'ARTERIOPATHIE
- APPORTE DES PREUVES à L'UTILITE DE LA CORRECTION DU VOL
-  DP SOUS COMPRESSION de la FAV > 20% et ou > seuil ischémique (facteur pronostic+)

- (CDPAC) : change in digital pressure with access compression

TEMOIN IRREFUTABLE DE LA SEVERITE DU VOL

Efficacité du DRIL et PAI si FAV au coude si PRESSION REMONTE > SEUIL ISCHEMIQUE

Efficacité de fermeture quelque soit le niveau de la FAV

- (CDPDC) : change in digital pressure with distal compression

Valeur de l'artère Ulnaire et des AP

Efficacité de la L.A.R.D ou PLUG si PRESSION REMONTE > SEUIL ISCHEMIQUE

CLINIQUE et ORIENTATION THERAPEUTIQUE

TISSULAIRES

Stade I	Hémodétournement pauci symptomatique Paleur Refroidissement Diminution de Pression Digitale	SURVEILLANCE
Stade II a	Engourdissement Crampe Refroidissement Douleur à l'exercice et ou en dialyse: Tolérable	Haut Q: Réduction de Q Q Normal: surveillance armée Auto-kinésithérapie
Stade II b	Engourdissement Crampe Refroidissement Douleur à l'exercice et ou en dialyse: Intolérable	Haut Q: Réduction de Q Q Normal:
Stade III	Douleur permanente Impotence	ATL Fonction Du Site De L'AAV:
Stade IV a	Troubles trophiques limités-dysfonction réversible	DRIL PAI LARD
Stade IV b	Troubles trophiques irréversibles : amputation	+ / -FERMETURE

NEUROLOGIQUES

ISCHEMIE MONOMELIQUE AIGUE :  **Fermeture en Urgence**

[Inston N.J Vasc Access 2016](#)

BUT du TRAITEMENT

AMELIORER LA PERFUSION DISTALE

✓ RADIOLOGIE INTERVENTIONNELLE

✓ CHIRURGIE : SUPPRIMER LE VOL
EMPECHER TOUT RECRUTEMENT PAR LA FAV : PAI ++++

✓ MEDECINE

RHEOPHERESE

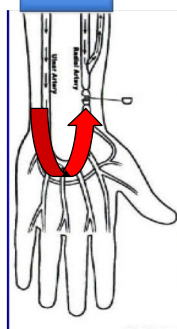
OXYGENOTHERAPIE HYPERBARE

MAINTIEN DES CONSTANTES: VOLEMIE , PA , SANG, O²

TRAITEMENT CHIRURGICAL

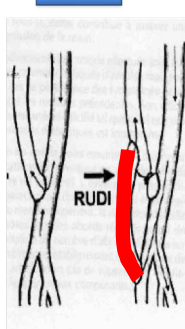
En DH de la Fermeture

LARD
PLUG



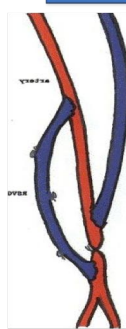
FAV DISTALE
DP ↑ sous
COMPRESSION ARD
SYOREY

RUDI



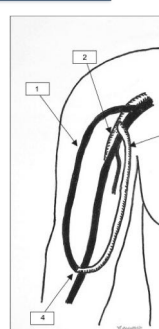
FAV COUDE
Q : ELEVE
DP ↑ sous COMPRESSION FAV

DRIL



Q : N . DP ↑ > 20% sous COMPRESSION FAV
PAI +++
ETEINT LE RECRUTEMENT

PAVA/PAI



DOIT RESTAURER LA PRESSION ET SUPPRIMER TOUTE POSSIBILITE DE RECRUTEMENT



EVALUATION de L'AOMS avant CREATION

DEVRAIT ETRE SYSTEMATIQUE CHEZ PATIENT à RISQUE

US + Pression digitale

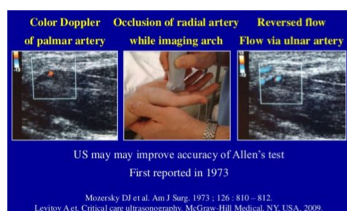
- ✓ (BDP) : BASAL DIGITAL PRESSURE/PRESSION BASALE
- ✓ (DBI) : DIGITAL BRACHIAL INDEX/INDEX DOIGT-BRAS



**DEPISTAGE DE AOMS:
DBI <0,7
90/100% SENSIBILITE**



TEST de COMPRESSION avant CREATION ou LARD



TEST D'ALLEN'S MODIFIE

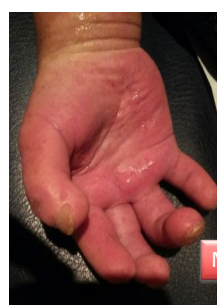
Prise des Pressions sous Compression de l'AR distale



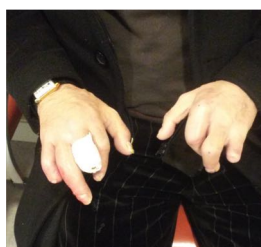
TEST LA VALEUR DE L'ARTERE ULNAIRE ET DES ARCADES PALMAIRES

L'ARTERE ULNAIRE EST LA CLEF DE L'ISCHEMIE INDUITE

FAUT IL TENTER LE DIABLE ?



MAIN SCLERODERMIQUE



25 ans de Diabète IR
FAV demandée!!!!!!

PREVENTION

CENTRE sur LE RISQUE de ST III et IV

EVITER LA DOUBLE PEINE:

RETARD DE MATURATION des FAV DISTALES +ISCHEMIE

DBI < 0,6

CHANGER LA STRATEGIE DE CREATION



**CHOISIR C'EST RENONCER
(A.GIDE)**



[Vasc Endovascular Surg](#), 2003 May-Jun;37(3):179-84.

Prediction of arteriovenous access steal syndrome utilizing digital pressure measurements

[Papavasvas PK¹](#), [Reifsnnyder T](#), [Birdas TJ](#), [Caushaj PF](#), [Leers S](#).

Abstract

Steal syndrome is a well-known complication of arteriovenous (AV) access placement. To assess the derangement in hemodynamics of the upper extremity after AV access creation, brachial and digital pressures were performed before and after operation. Thirty-five patients (ages 20-88 years) with end-stage renal disease requiring new upper extremity hemodialysis AV access were prospectively evaluated. Values were obtained preoperatively, on the day of surgery, and 1 month postoperatively. Follow-up at 1 year was obtained on all patients. Of the 35 patients, 19 (54%) were diabetic and 9 (26%) had had a prior AV access. The AV accesses created included the following: autogenous brachial-cephalic (n = 14, 40%), autogenous radial-cephalic (n = 10, 29%), brachial-basilic transposition (n = 5, 14%), prosthetic brachial-antecubital forearm loop (n = 3, 9%), autogenous brachial-axillary saphenous vein translocation (n = 2, 6%), and 1 (3%) prosthetic brachial-axillary. After AV access creation the digital brachial index (DBI) dropped in 28 (80%) of the 35 patients. Six patients (17%) developed a symptomatic steal, 3 of which (9%) eventually required revision. In those patients without ischemic steal symptoms (n = 29) the mean DBI decreased from 0.9 to 0.7 (p < 0.01) immediately and decreased no further at 1 month. For those with a symptomatic steal the DBI decreased from 0.8 to 0.4 (p < 0.01) immediately and decreased no further at 1 month. Utilizing a DBI less than 0.6, the sensitivity was 100%, the specificity 76%, the positive predictive value 46%, and the negative predictive value 100%. Hemodynamic steal after AV access creation is very common, with symptomatic steal occurring nearly a fifth of the time. Utilizing digital pressure measurements, a DBI < 0.6 obtained on the day of surgery can reasonably predict which patients are at risk for the development of a symptomatic steal.

DBI < 0,6

[Ann Vasc Surg.](#) 2000

Steal syndrome complicating hemodialysis access procedures: can it be predicted?

[Goff CD](#) · [Sato DT](#) · [Bloch PH](#) · [DeMasi RJ](#) · [Gregory RT](#) · [Gayle RG](#) · [Parent FN](#) · [Meier GH](#) · [Wheeler JR](#)

Abstract

The development of steal syndrome distal to an arteriovenous fistula (AVF) created for hemodialysis access remains a significant clinical problem. This study was undertaken to determine the role of intraoperative noninvasive testing in the prediction and management of steal syndrome following arteriovenous fistula creation. First, in order to determine a threshold digital/brachial index (DBI) for patients at risk for steal syndrome, we performed a retrospective review of patients who had had the DBI measured and who developed symptoms (steal syndrome) following AVF creation. This was followed by a prospective evaluation of the ability of the DBI to predict which patients undergoing AVF surgery would develop steal syndrome. A DBI < 0.6 identifies a patient at risk for steal syndrome. Intraoperative DBI cannot be used to predict which patient will develop steal syndrome, however, if revision is indicated, the DBI should be increased to >0.6. Failure to accomplish this puts the patient at risk for continued steal syndrome.



European Journal of Vascular and
Endovascular Surgery

Volume 32, Issue 3, September 2006, Pages 309–315



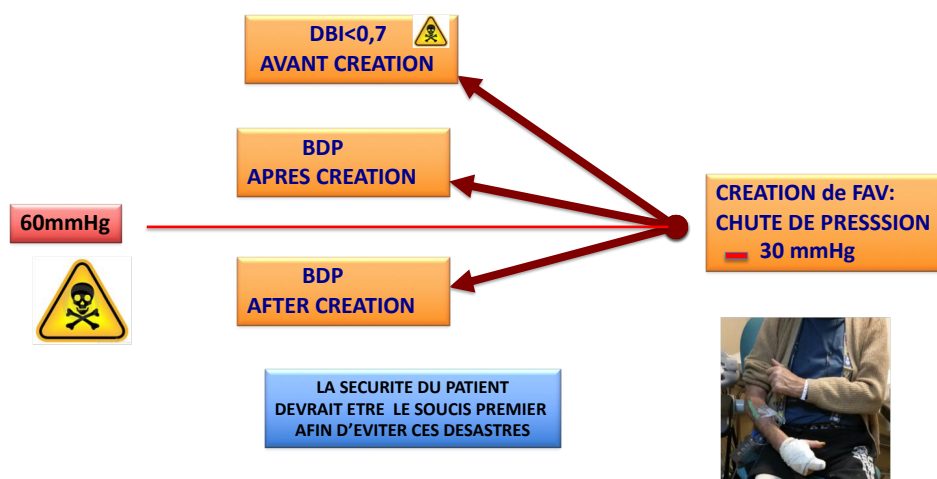
Educational Article

Strategies for Predicting and Treating Access Induced Ischemic Steal Syndrome

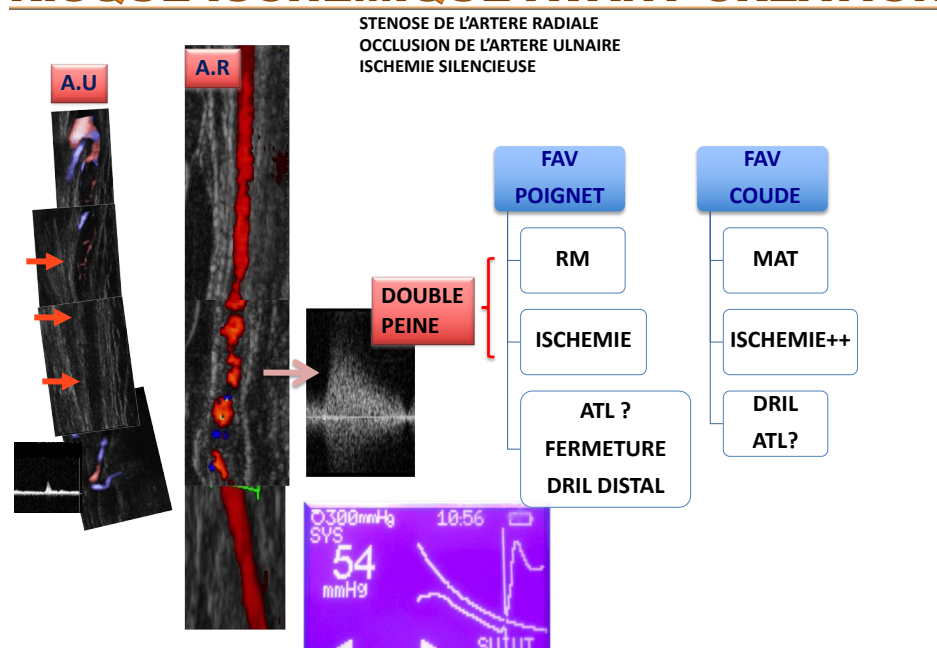
G.S. Tynan-Cuisinier², S.S. Berman^{1,2},

Access induced ischemia is an uncommon but devastating complication for patients maintained on hemodialysis. A number of clinical risk factors have been identified to select patients at risk. Intraoperative measurement of the digital-brachial index may further distinguish at-risk patients when the DBI < 0.45. Once clinically significant steal has developed, surgical strategies to treat this problem should ideally reverse the ischemia while maintaining uninterrupted access for hemodialysis. To date, the distal revascularization-interval ligation or DRIL procedure has been the most consistently successful tactic in achieving these dual objectives. A number of alternative strategies have recently been proposed and will be discussed.

PREVENTION DE L'ISCHEMIE INDUITE



RISQUE ISCHEMIQUE AVANT CREATION



Gestion Retard de Maturation + ischémie



LA TRIADE MORTELLE
Retard de maturation
ischémie induite
Sténose du versant veineux



**LA GESTION
DE
L'ISCHEMIE PRIME**

↓
ATL DU VERSANT VEINEUX
↓
AUGMENTE LE Q⁰
↓
MAJORE L'ISCHEMIE

GESTION ET PREVENTION CHEZ LE DIALYSE

EVALUATION EVOLUTIVE de L'AOMS

DEVRAIT ETRE SYSTEMATIQUE CHEZ PATIENT à RISQUE

US + Pression digitale

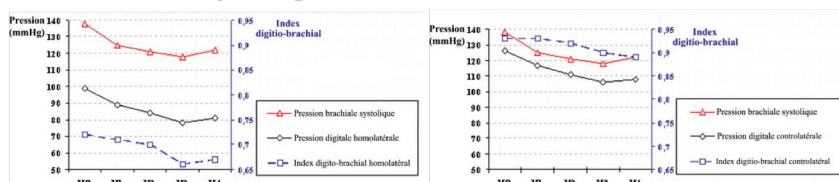
PRESSION DIGITALE PENDANT LA SEANCE
IMPUTABILITE D'UNE SYMPTOMATOGIE
DEPISTER L'ISCHEMIE SILENCIEUSE

DEPISTAGE ET SUIVI DE AOMS:
DBI <0,7
90/100% SENSIBILITE



PRESSIONS DIGITALES PENDANT LA DIALYSE

Dépistage de l'ischémie silencieuse



Digital pressures, systemic blood pressure and digital brachial index recorded before and during the dialysis (mean $\pm$ standard deviation) (n = 49).

		H0	H1	H2	H3	H4
Pression digitale (mmHg)	HomoDP	99 $\pm$ 32	89 $\pm$ 36	84 $\pm$ 32	78 $\pm$ 31	81 $\pm$ 30
	ControDP	126 $\pm$ 28	117 $\pm$ 27	111 $\pm$ 27	106 $\pm$ 26	108 $\pm$ 25
	HomoDP vs ControDP	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$
Pression systolique brachiale (mmHg)	HomoDBI	138 $\pm$ 25	125 $\pm$ 23	121 $\pm$ 21	118 $\pm$ 21	122 $\pm$ 18
	ControDBI	0,72 $\pm$ 0,23	0,71 $\pm$ 0,26	0,70 $\pm$ 0,25	0,66 $\pm$ 0,23	0,67 $\pm$ 0,23
	HomoDBI vs ControDBI	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$	$p < 0,001$

BDP DIMINUE DES 2 COTES PD DIALYSE

CORRELES à la CHUTE DE PA

BDP < 30 mm Hg ASYMPTOMATIQUE CHEZ 12 % PATIENTS :ISCHEMIE SILENCIEUSE SUR NEUROPATHIE PROBABLE ?)

VanHoek F, Nephrology(Carlton)2010
Journet J, J Mal Vasc 2012

CONCLUSION

Le bilan non invasif de débrouillage est réalisé en routine

PRE et POST CREATION
US +PRESSIONS

UTILE AU DIAGNOSTIC DIFFERENTIEL :NEUROPATHIES

CONDUIT à des INVESTIGATIONS INVASIVES

ORIENTE VERS LES SOLUTIONS THÉRAPEUTIQUE

EVITE LA CREATION DE FAV à RISQUE

