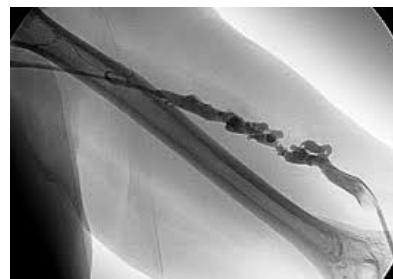




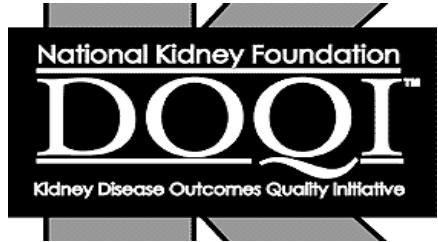
Il faut un examen objectif  
mesures intra-dialytiques de débit



Société Française de  
l'Abord Vasculaire

Dr Frank Le Roy  
Ajaccio, le 13 mai 2022

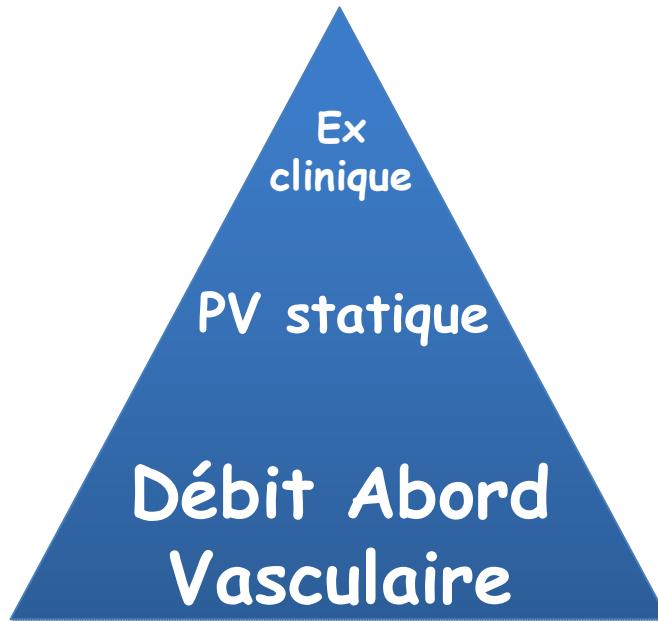
# Outils de dépistage



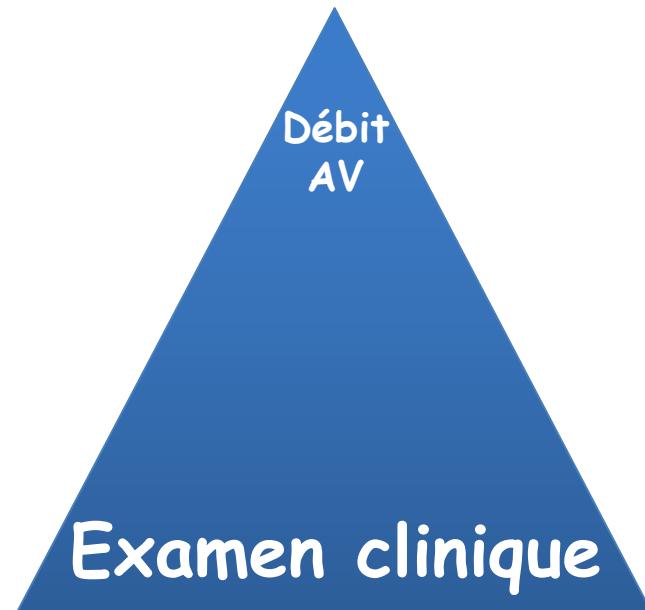
2006



2007



# Outils de dépistage



2018



2019

## CHAPTER 7. VASCULAR ACCESS SURVEILLANCE



### Recommendations

#### AV fistulas

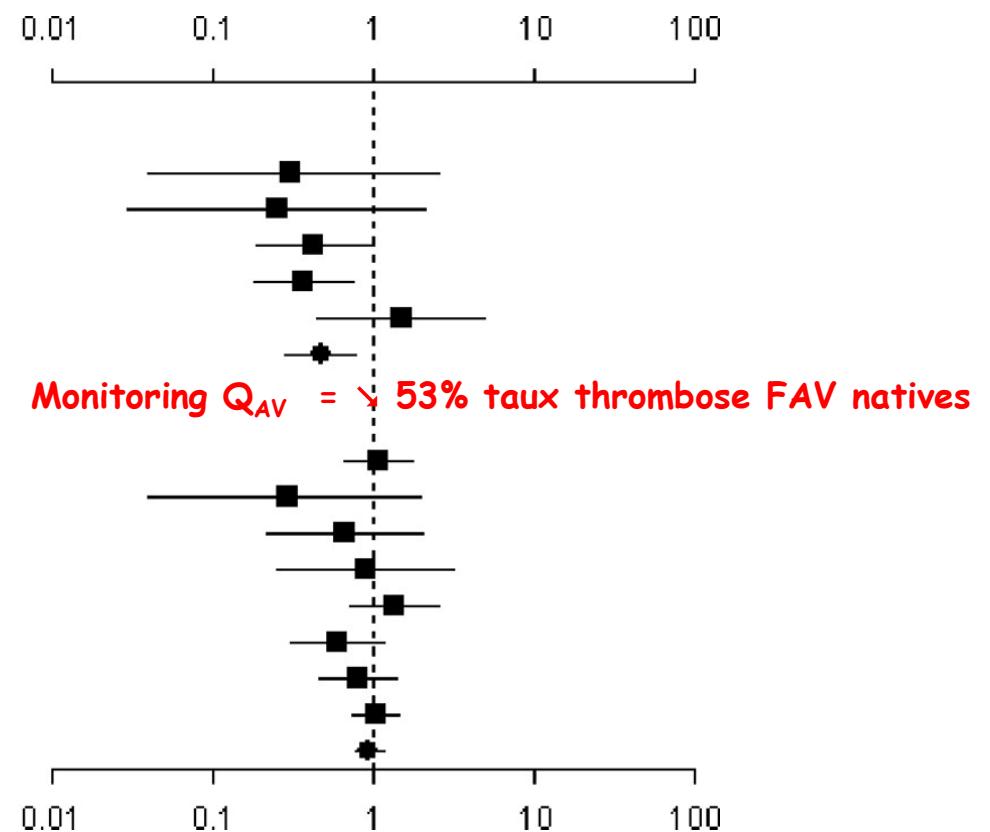
We suggest the evidence for technical surveillance in addition to clinical monitoring of a functional arteriovenous fistula to detect and pre-emptively correct a haemodynamically important arteriovenous access stenosis in adults is inconclusive and needs more research. (2C)

#### AV grafts

We suggest against technical surveillance in addition to clinical monitoring of a functional arteriovenous graft to detect and pre-emptively correct a haemodynamically important arteriovenous access stenosis in adults unless it occurs in the context of a clinical study. (2C)

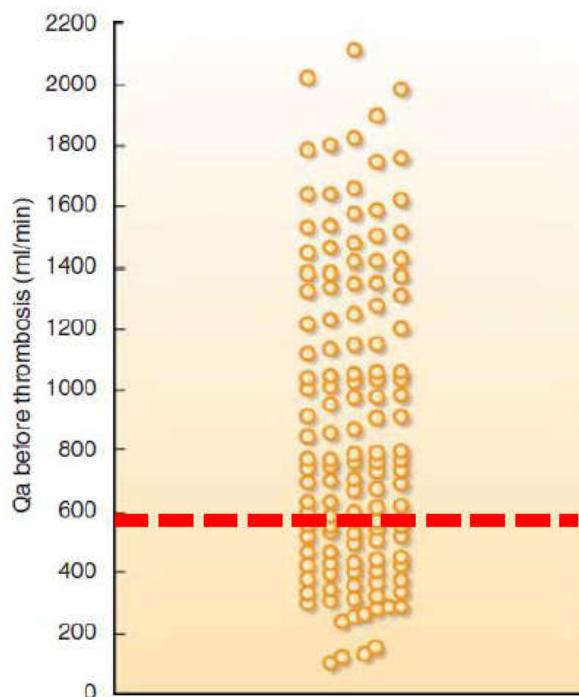
# La mesure de débit prévient les thromboses vrai pour les FAV, faux pour les PTFE

Study	RR (95% CI)
<b>Fistula</b>	
Sands 1999 F	0.31 (0.04,2.5)
Sands 1999 VP F	0.25 (0.03,2.06)
Tessitore 2003	0.43 (0.19,0.96)
Tessitore 2004	0.37 (0.18,0.75)
Polkinghorne 2006	1.48 (0.44,5.01)
Subtotal	0.47 (0.28,0.77)
<b>Graft</b>	
Lumsden 1997	1.06 (0.66,1.71)
Sands 1999 G	0.29 (0.04,1.94)
Sands 1999 VP G	0.67 (0.22,2.03)
Smits 2001 A	0.89 (0.25,3.17)
Smits 2001 B	1.34 (0.71,2.52)
Ram 2003 DU	0.59 (0.31,1.15)
Ram 2003 UD	0.8 (0.46,1.37)
Robbin 2006	1.03 (0.74,1.43)
Subtotal	0.94 (0.77,1.16)



# Mesure débit et PTFE

$Q_{AV}$  le mois précédent la thrombose - 132 thromboses 108 PTFE



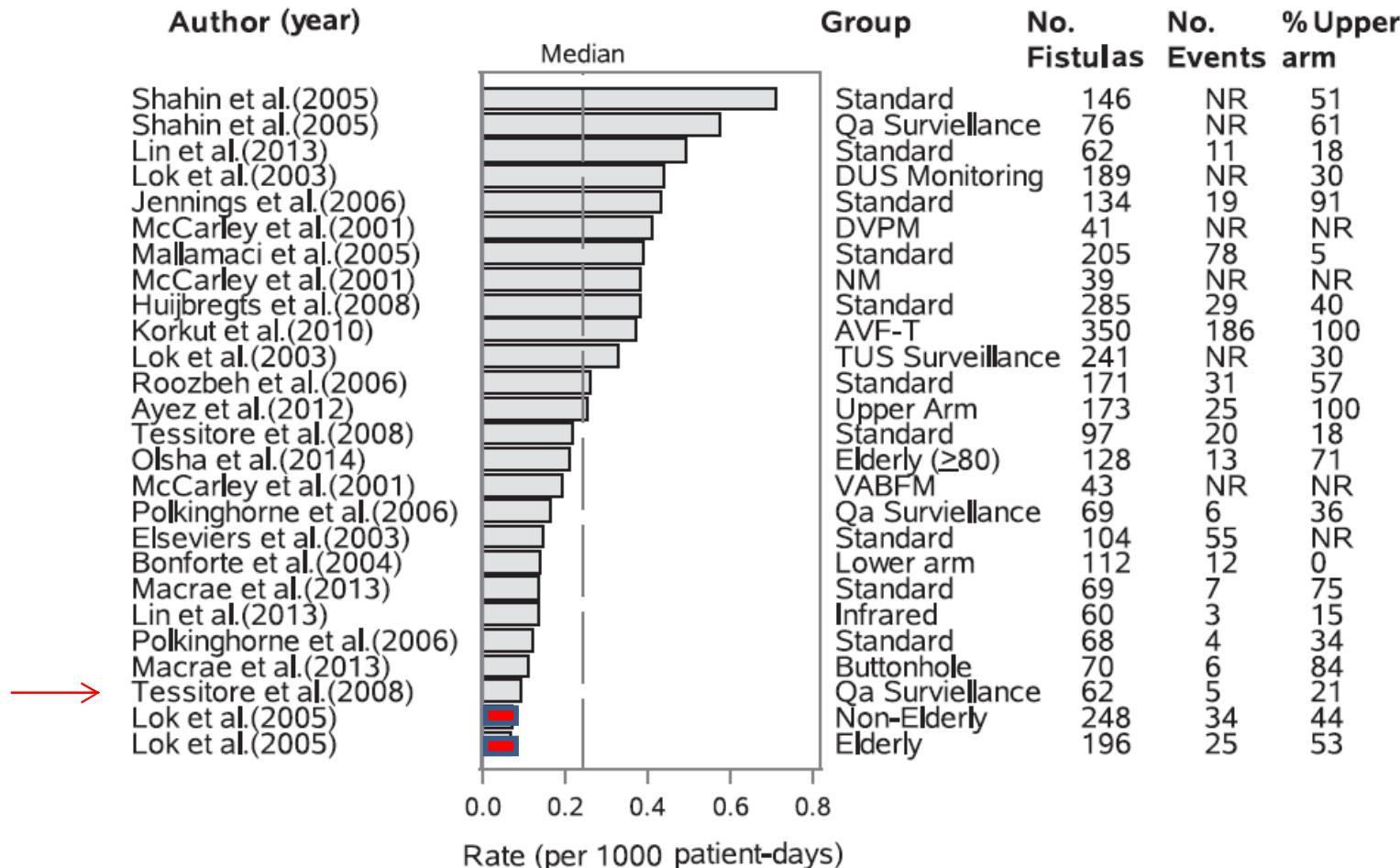
	$Q_{AV}$ mensuel	Variation $Q_{AV}$
Sensibilité (%)	53	58
Faux positifs (%)	21	25

Ram et al. Am J Kidney Dis 2008; 52: 930-938

# Episodes thrombotiques

4232 fistules/26 cohortes

Médiane 0,087 AP



# Fréquence de la thrombose

27798 patients-2013

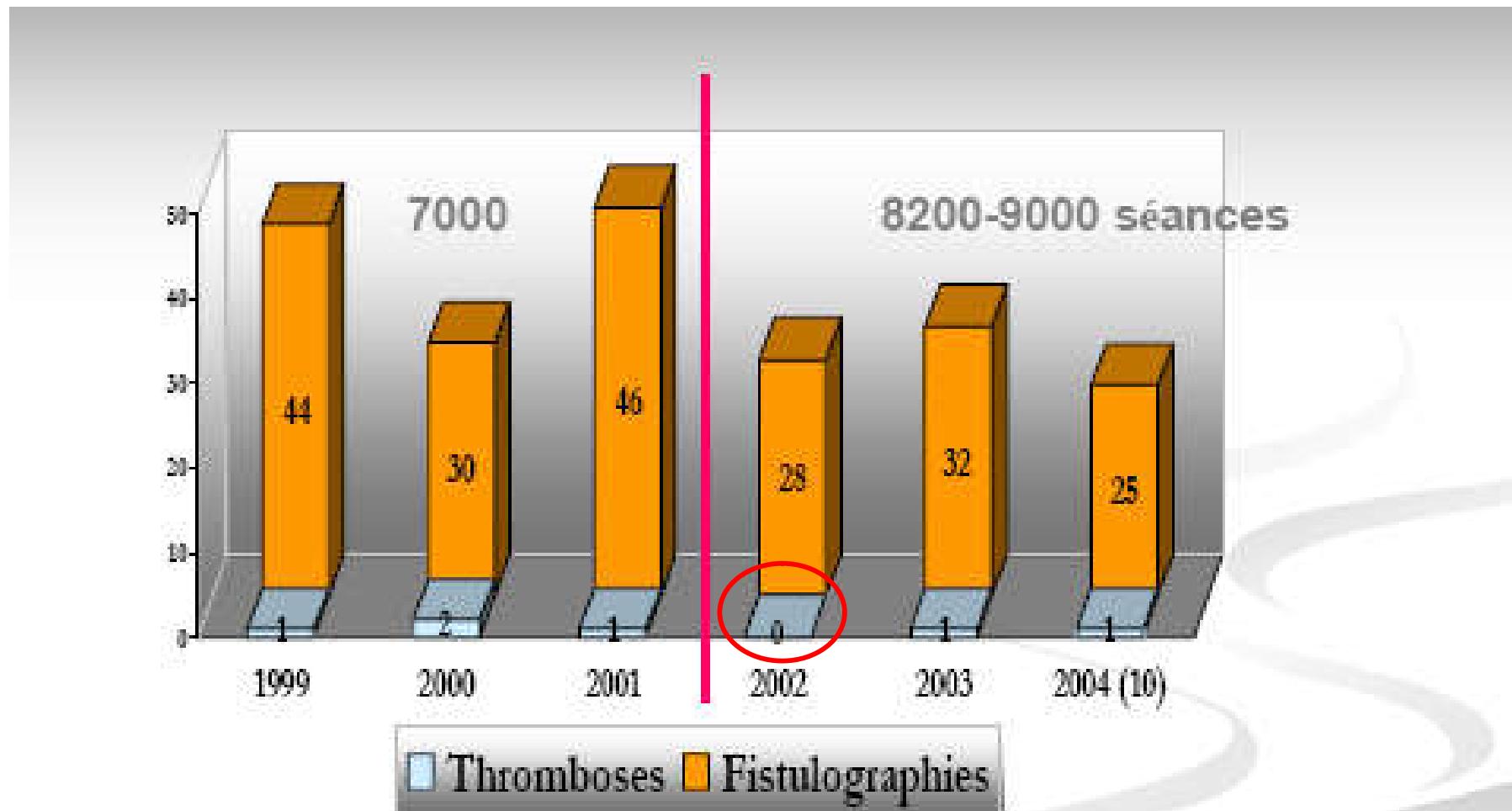


Taux de thromboses  
8,6%

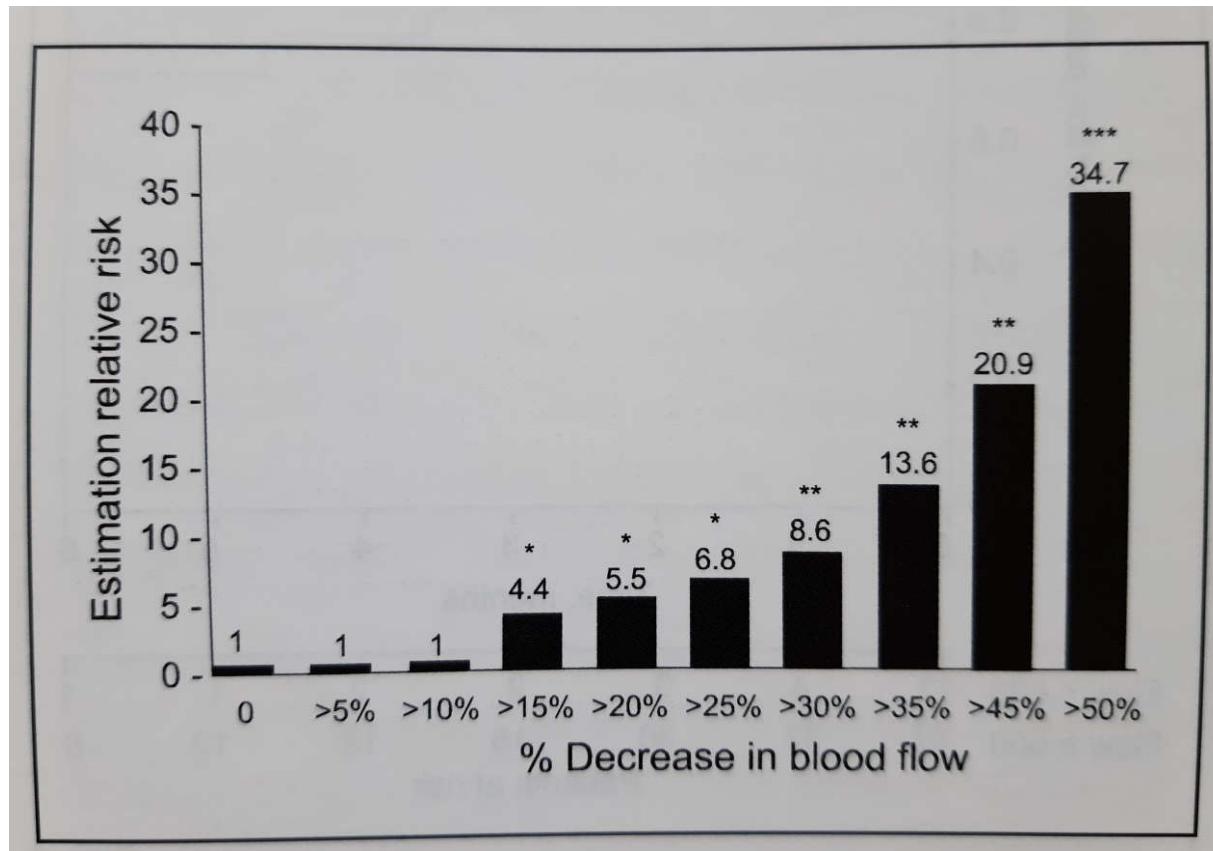


Sadaghianloo et al. Ann Vasc Surg 2015;29(6):1203-1210

# Thromboses Tours 1999-2004



# Mathématiques et Dialyse 2000

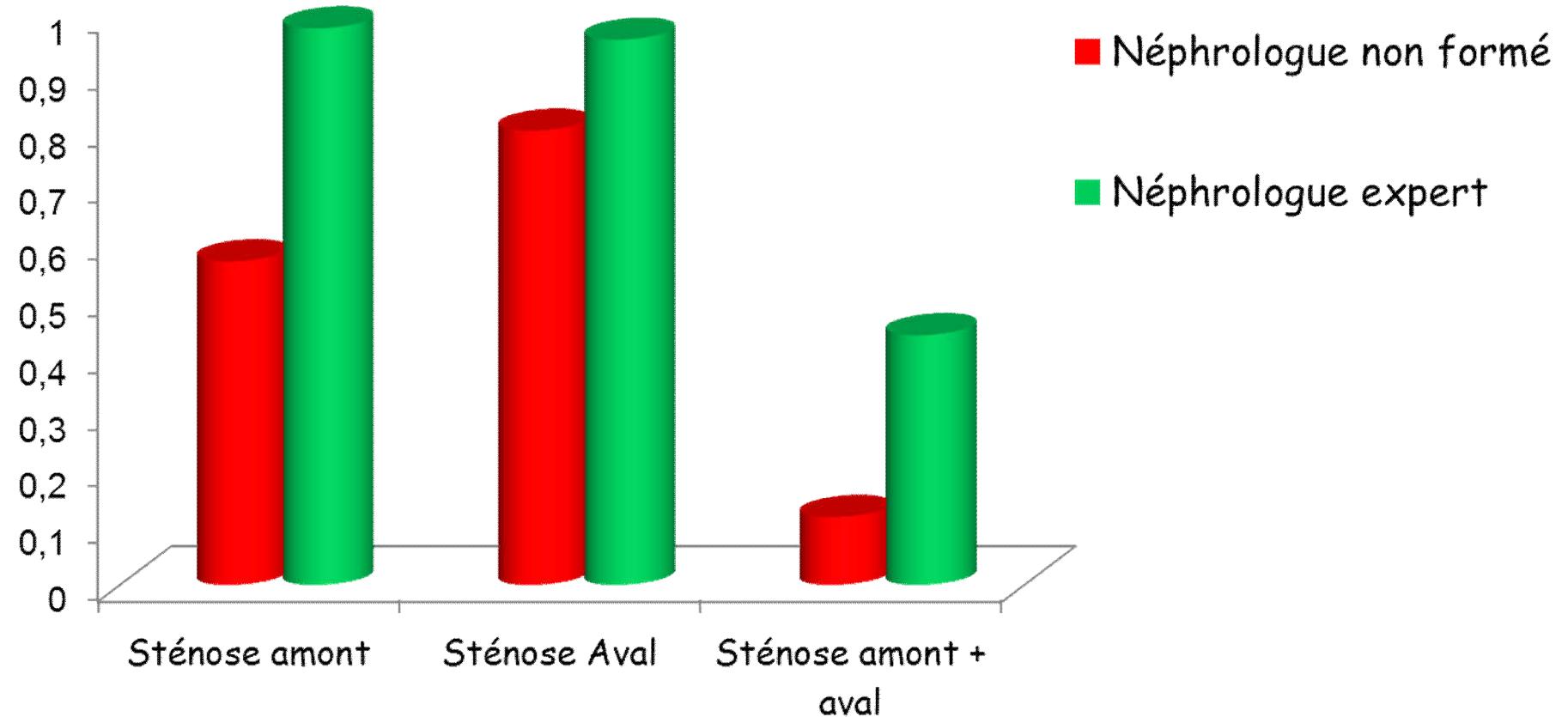




# L'examen clinique

Examen clinique - Fistulographie / n= 177

Sensibilité examen physique

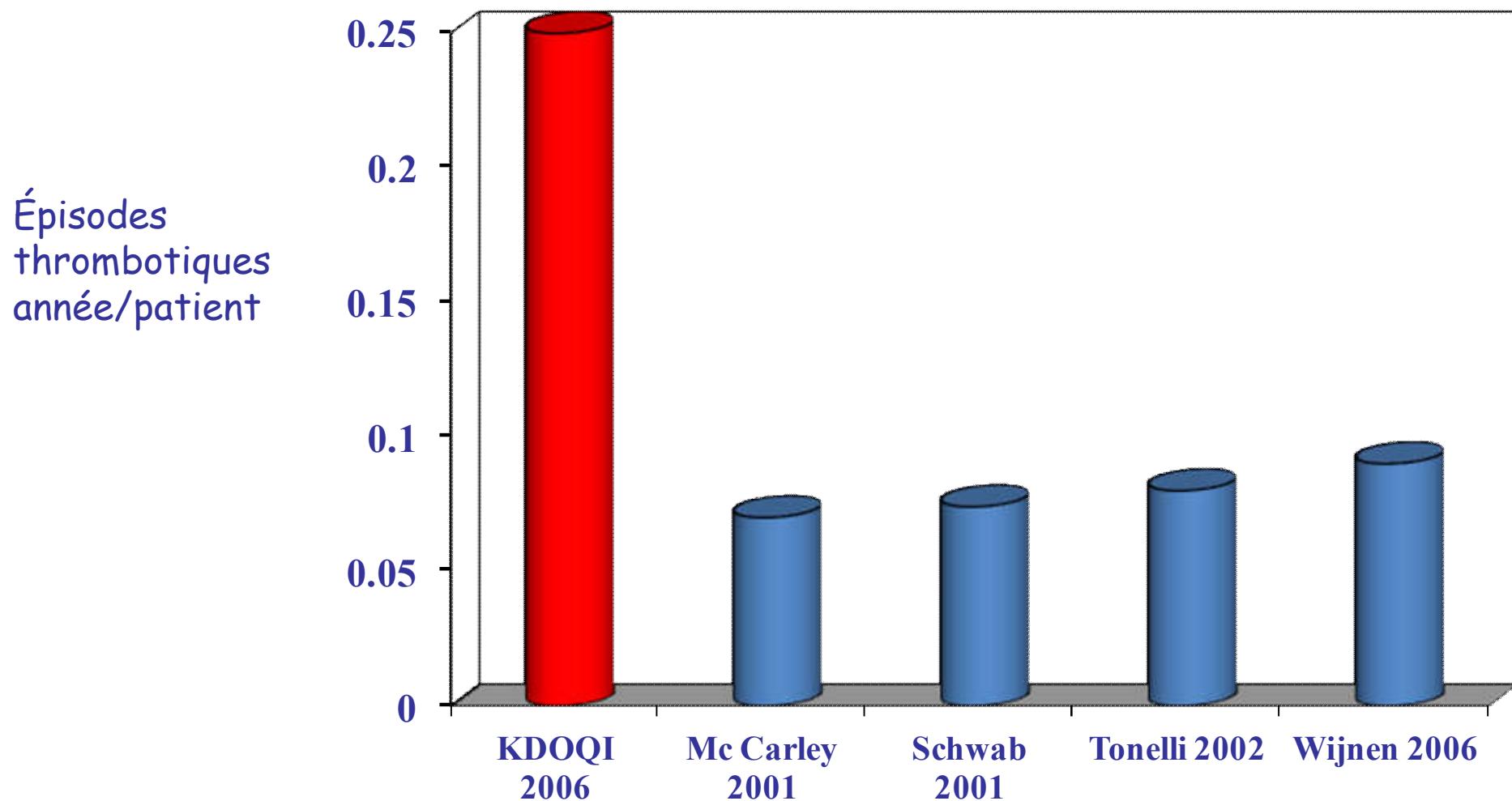


# 1995



Transonic®

# La mesure mensuelle du débit de l'AV est efficace !



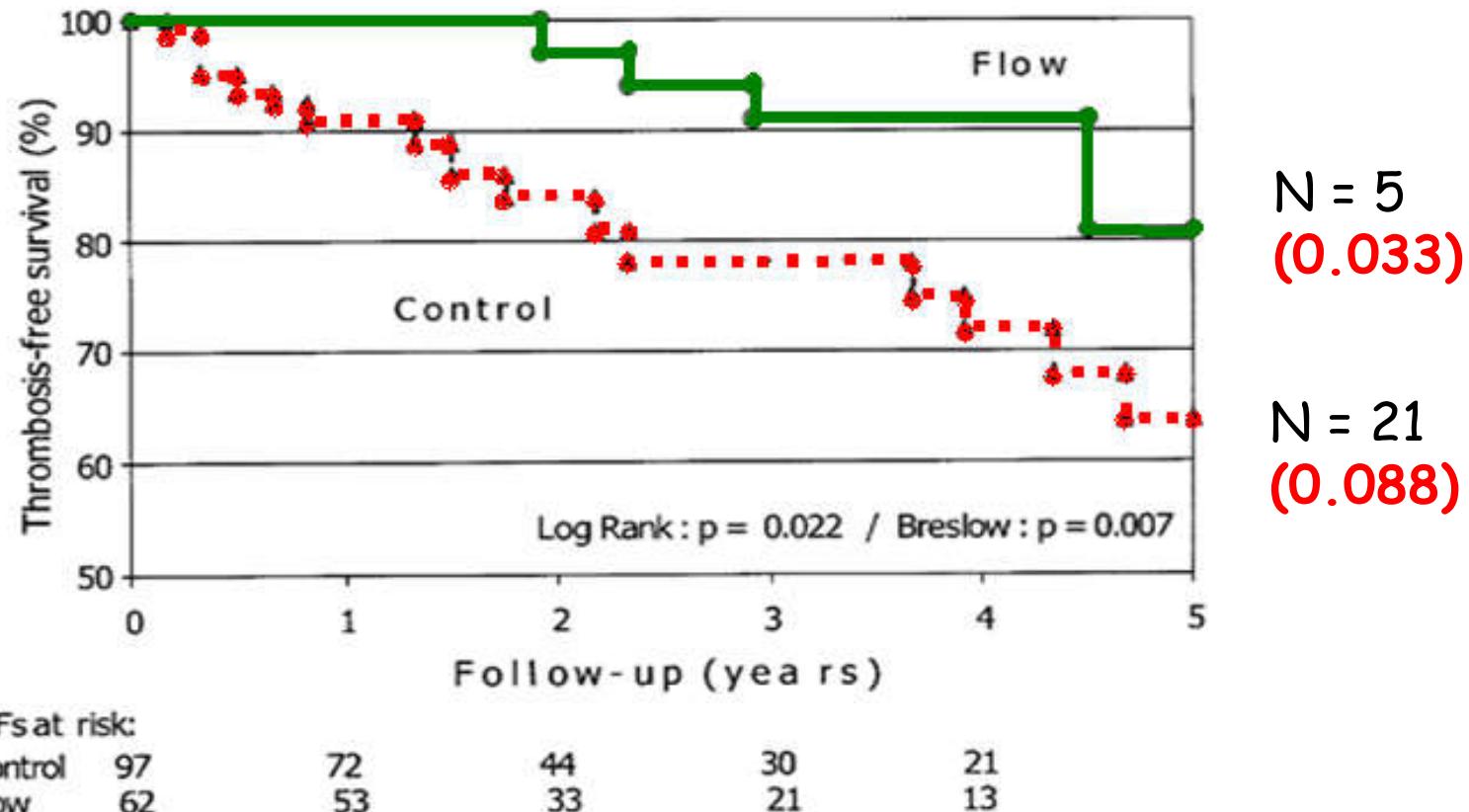
# L'examen clinique seul ne suffit pas !

Etude non randomisée - 159 patients - 5 ans de suivi

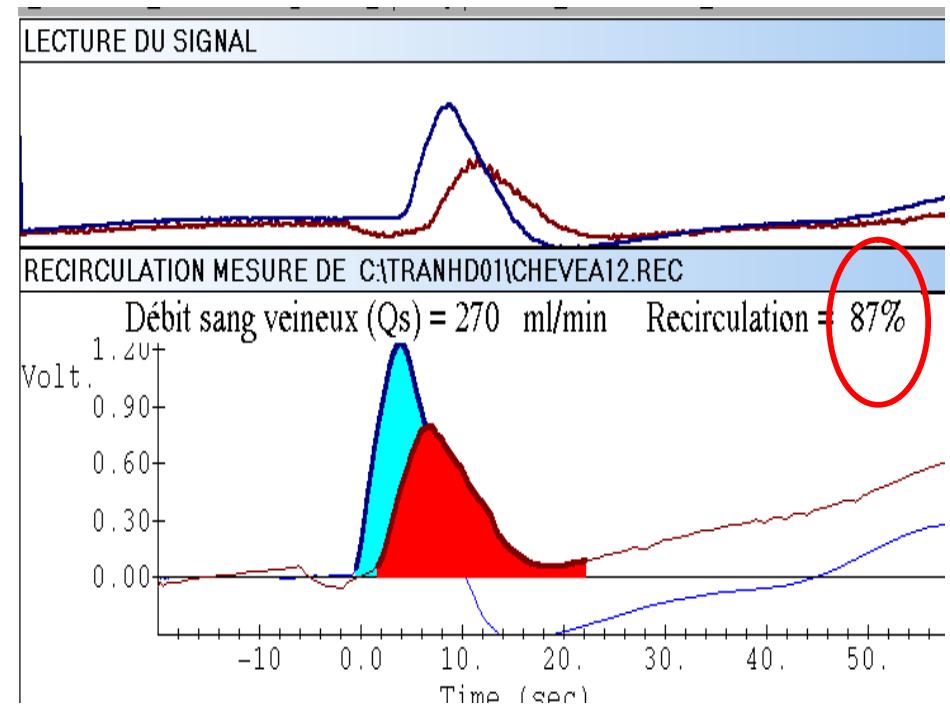
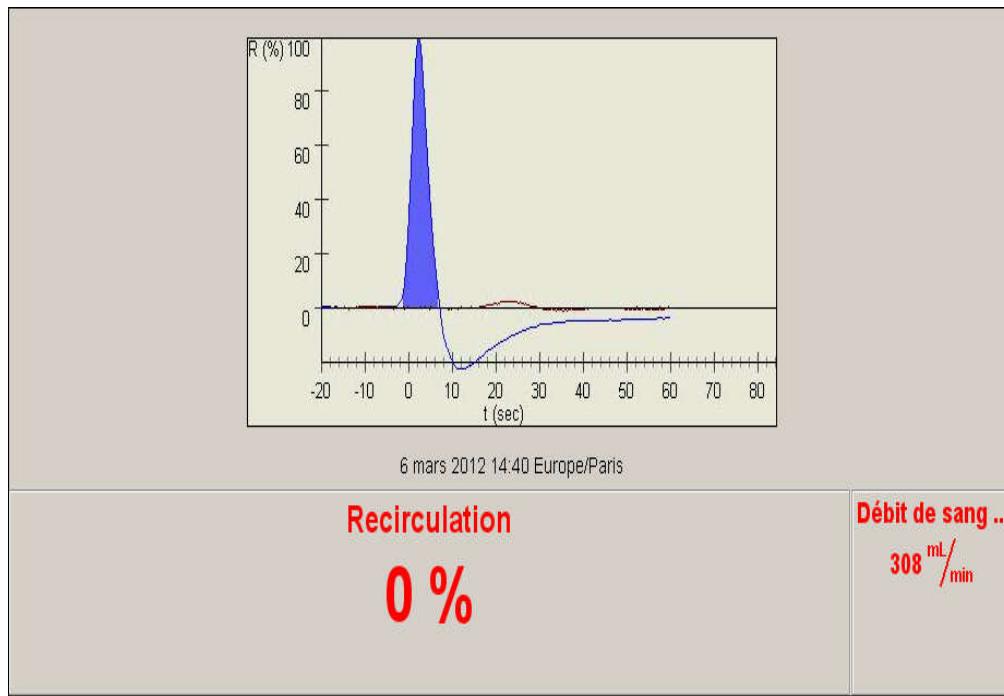
Groupe contrôle (n=97) (examen clinique)

Groupe Débit (n=62) ( $Q_{AV} < 750$  ou  $\Delta > 20\%$ )

↓ 27 %

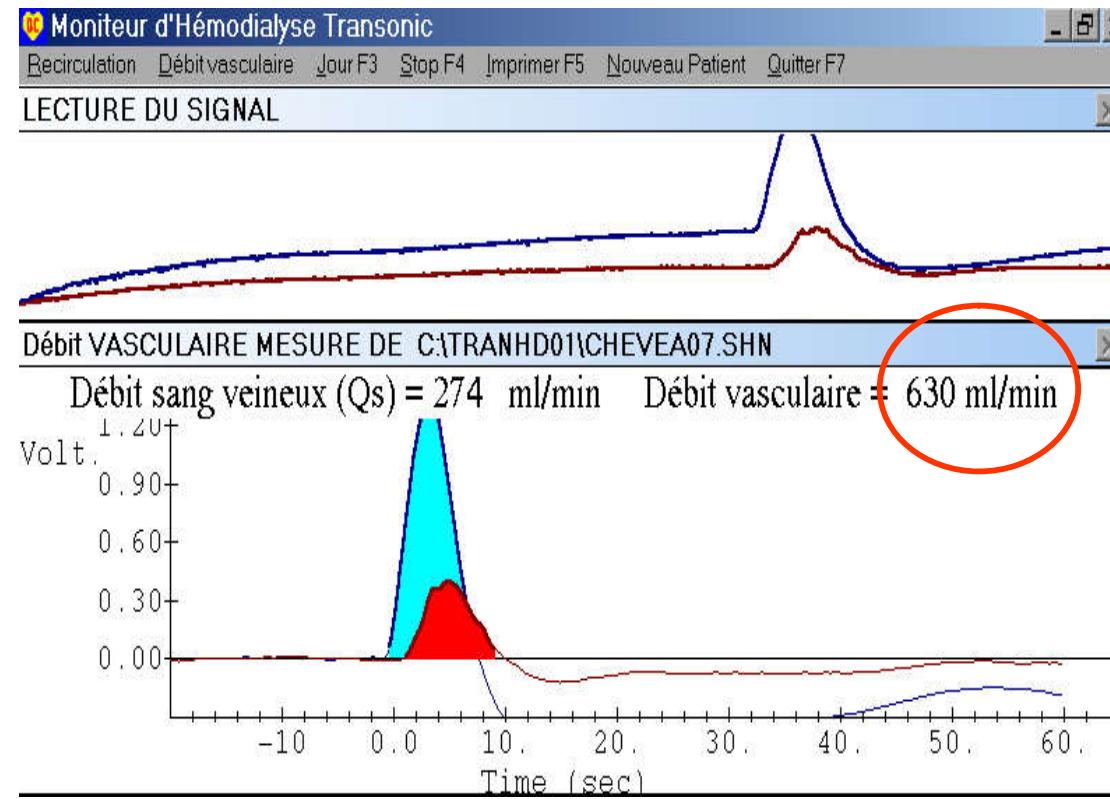


# Mesure de la Recirculation de l'AV par Dilution ultrasonique



# Mesure du Débit par Dilution ultrasonique

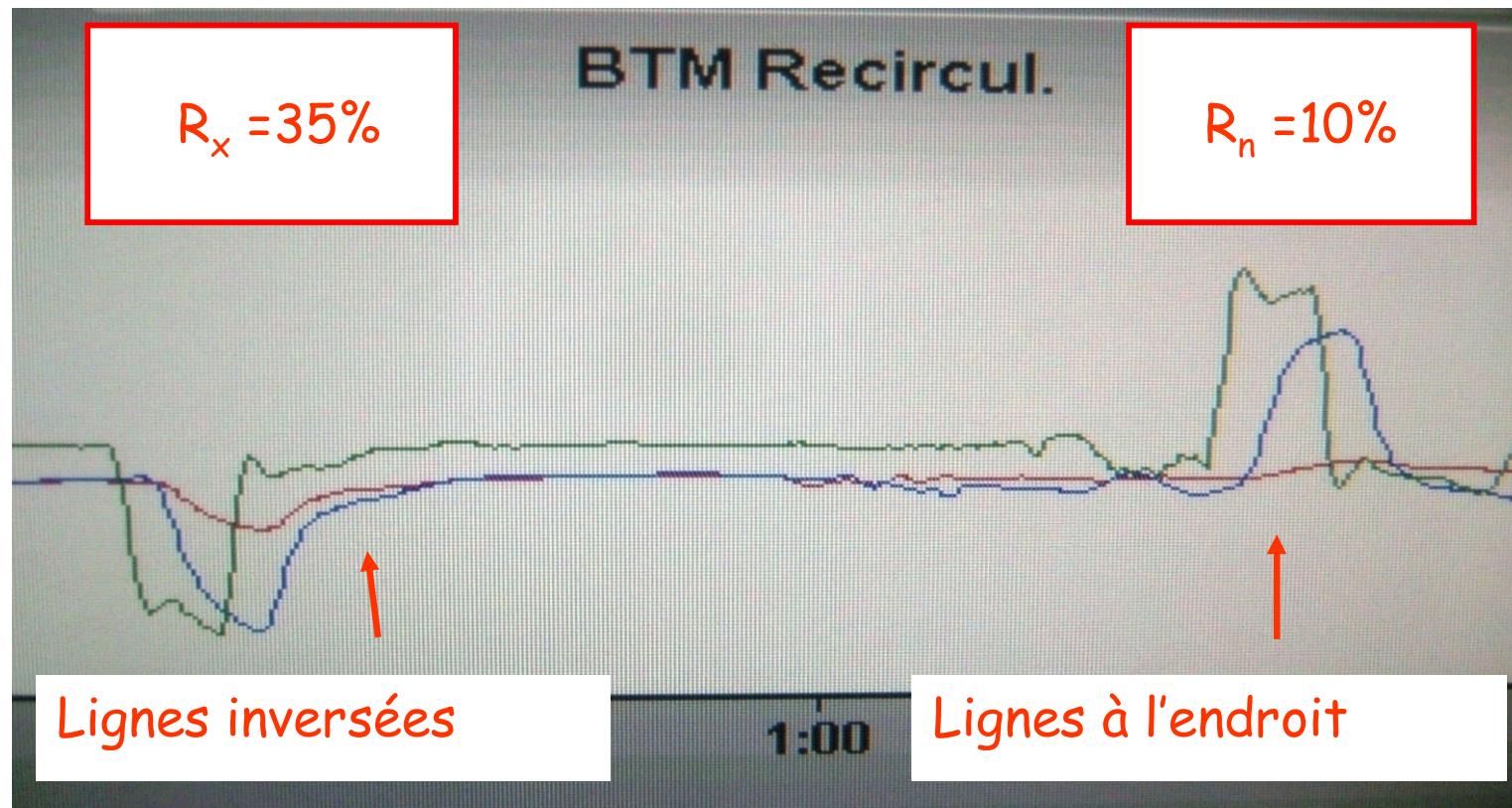
## Le Transonic



# Calcul du débit par Thermodilution

Technique de la « double recirculation »

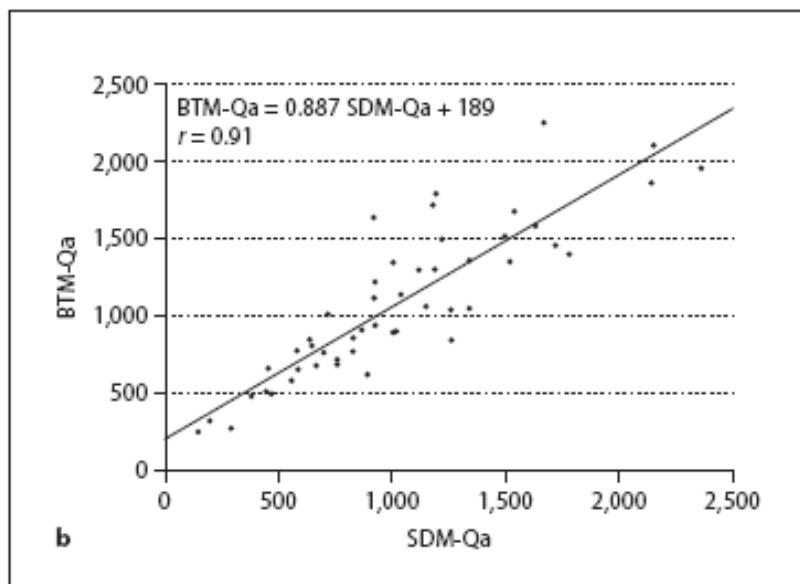
Module BTM Fresenius



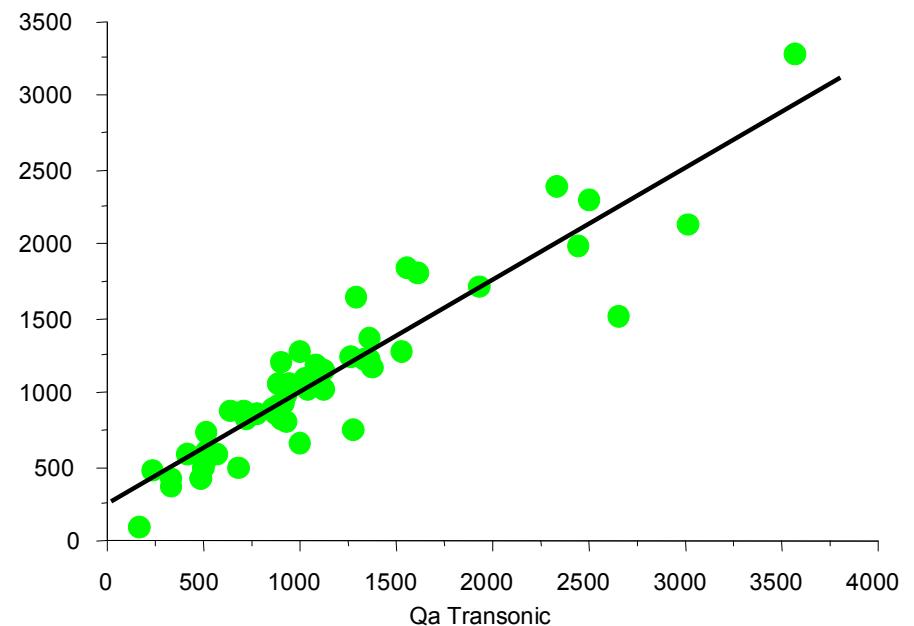
# Calcul du débit par Thermodilution

## Module BTM Fresenius

50 AV (42 FAV, 8 PTFE)  
 Fontseré et al. Blood Purif 2011



54 FAV  
 Données personnelles. Rouen

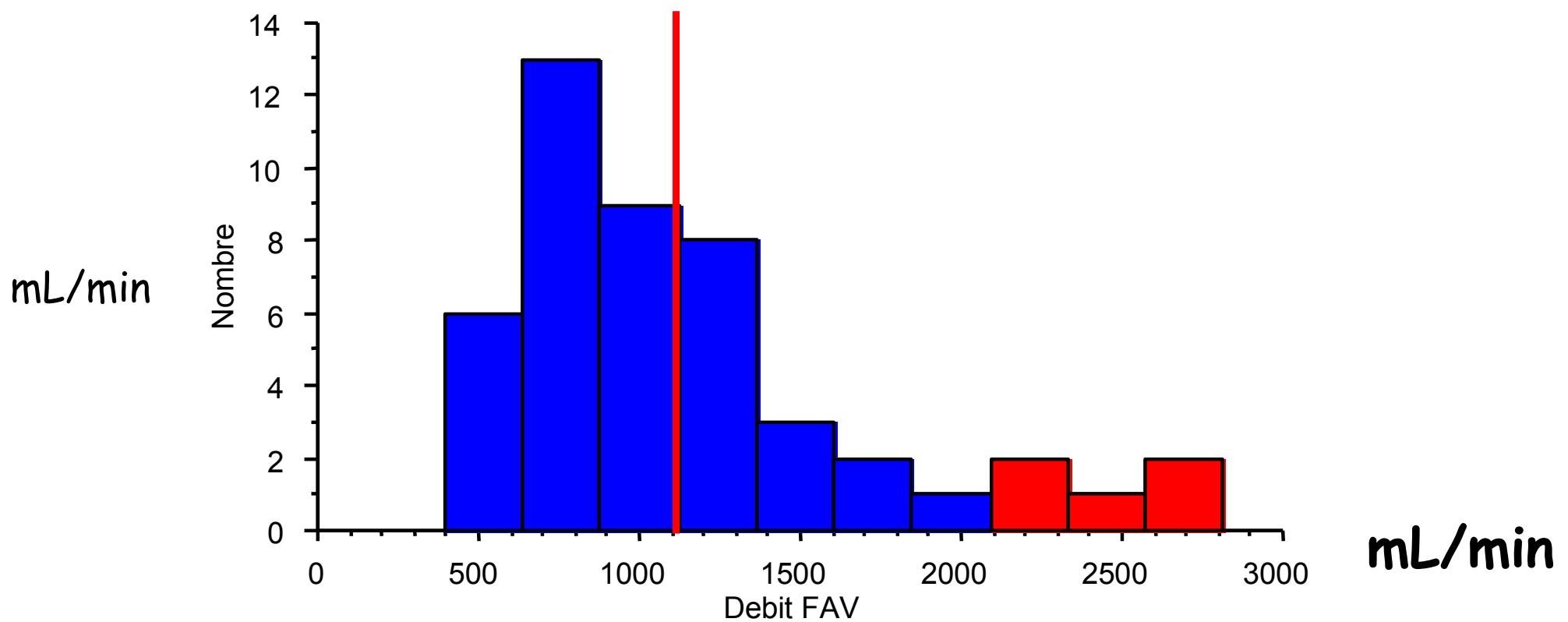


	Patients (n)	$Q_a$ Transonic	$Q_a$ BTM	$r^2$
Schneditz 1999	17	1390	1328	0.84
Fontseré 2011	50	1021	1094	0.82
Rouen 2008	54	1116	1083	0.82

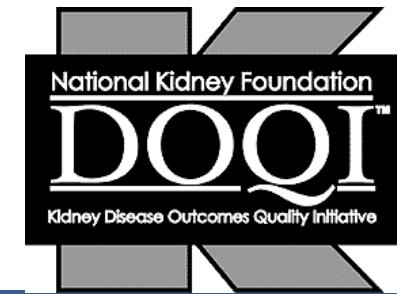
# Distribution des débits

$n=44$

$1140 \pm 602 \text{ mL/min} (395-2815)$



# Mesure débit: quel seuil ? Quel rythme ?



## SEUIL

- < 600 mL/min PTFE
- < 300 mL/min FAV avt bras
- FAV bras ?
- ↓ 20% en 1 mois

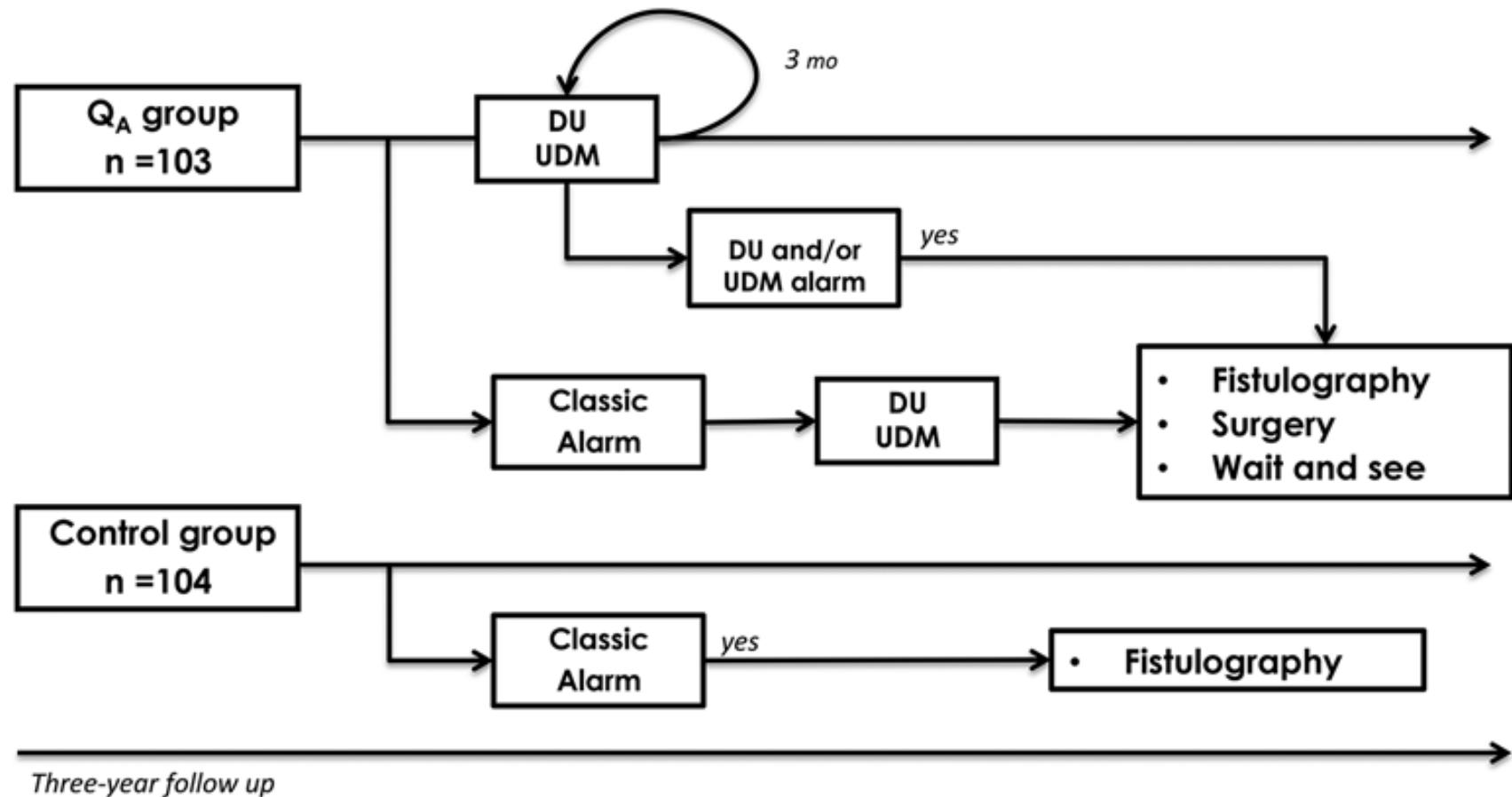
- < 600 mL/min pour PTFE
- < 400 - 500 mL/min FAV

## RYTHME

- 1 x / mois PTFE
- 1 x / 3 mois FAV

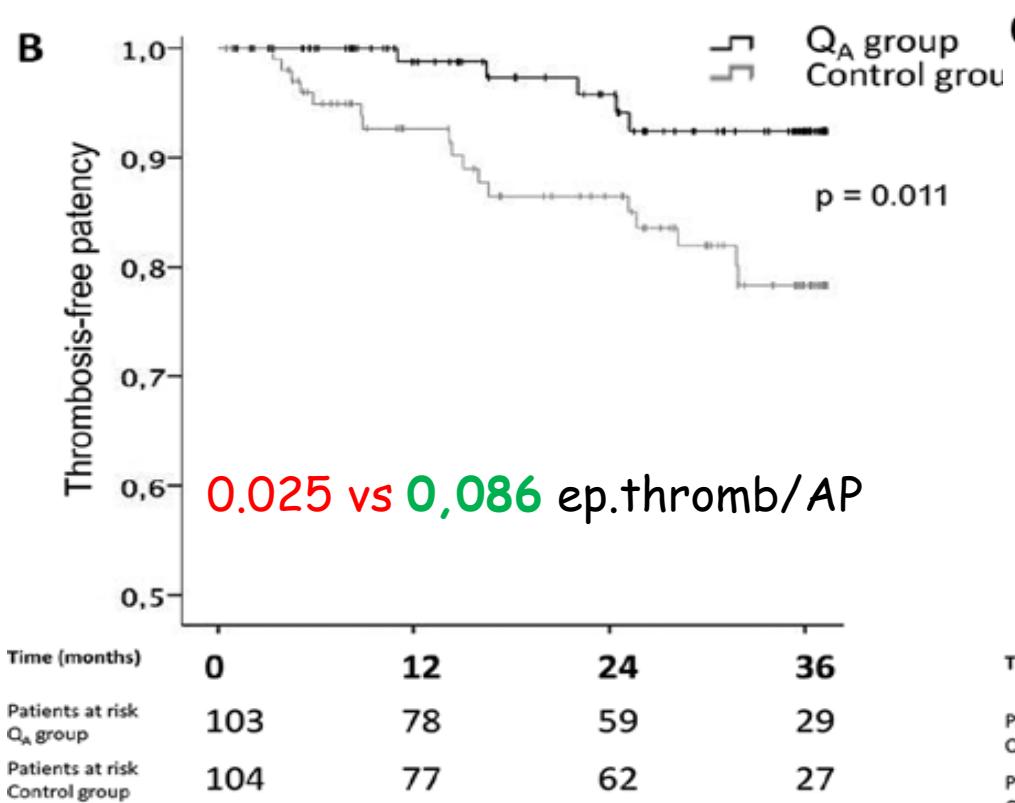
?

# Surveillance technique vs Surveillance clinique

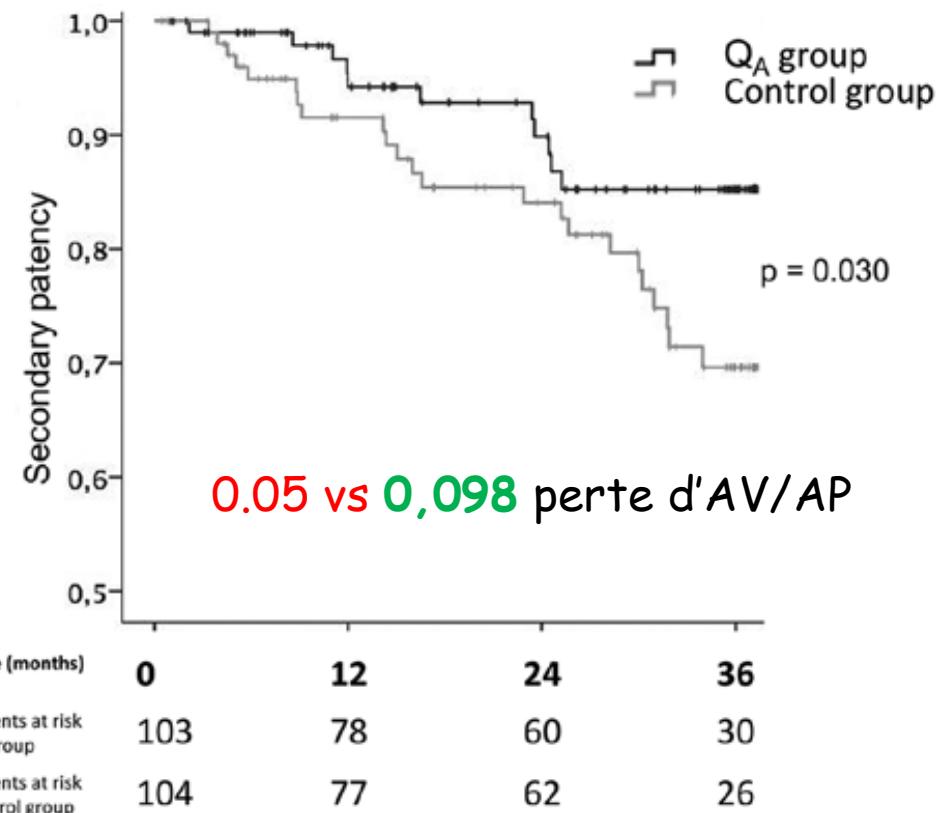


# Surveillance technique vs Surveillance clinique

Survie sans thrombose



Perméabilité secondaire

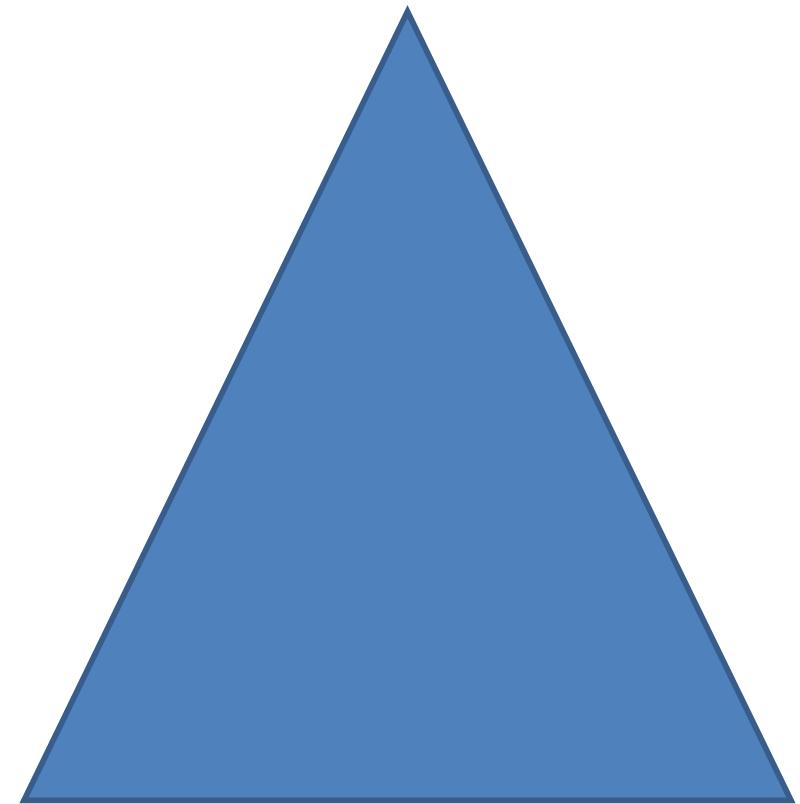
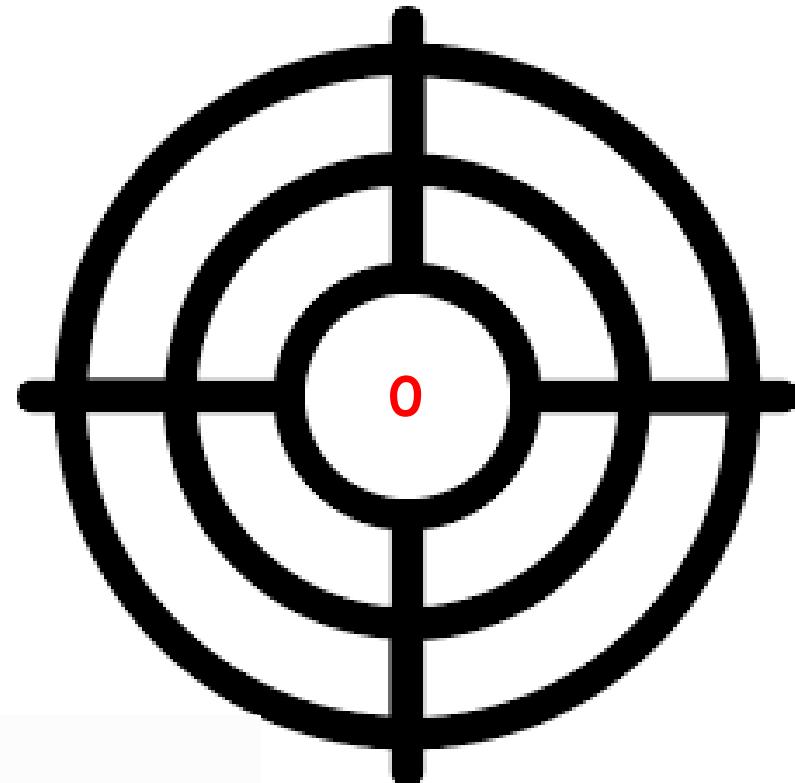


# Objectif 0 thrombose



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Doppler-autre méthode ?



Examen clinique

Débit  
en ligne