



# Actualités en Hépatologie

## NAFLD et Alcool

*Dr Jérôme Boursier*

*XIXe Symposium D'Hépto-gastroentérologie*

*17 juin 2011*

# Actualité en Hépatologie

## NAFLD et Alcool

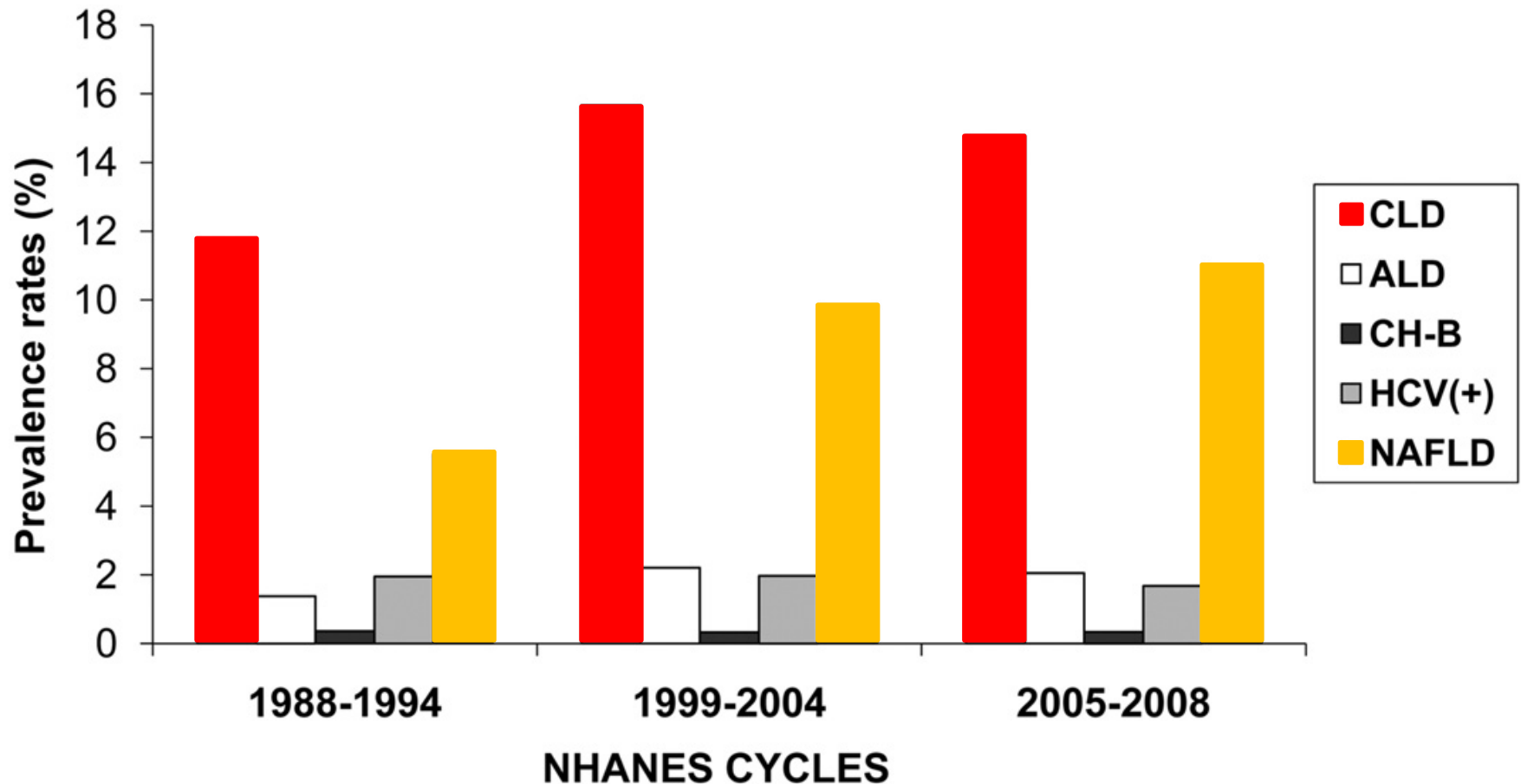
- **Prise en charge**
  - Hépatique
  - Extra-hépatique
- **Traitement**

# Actualité en Hépatologie

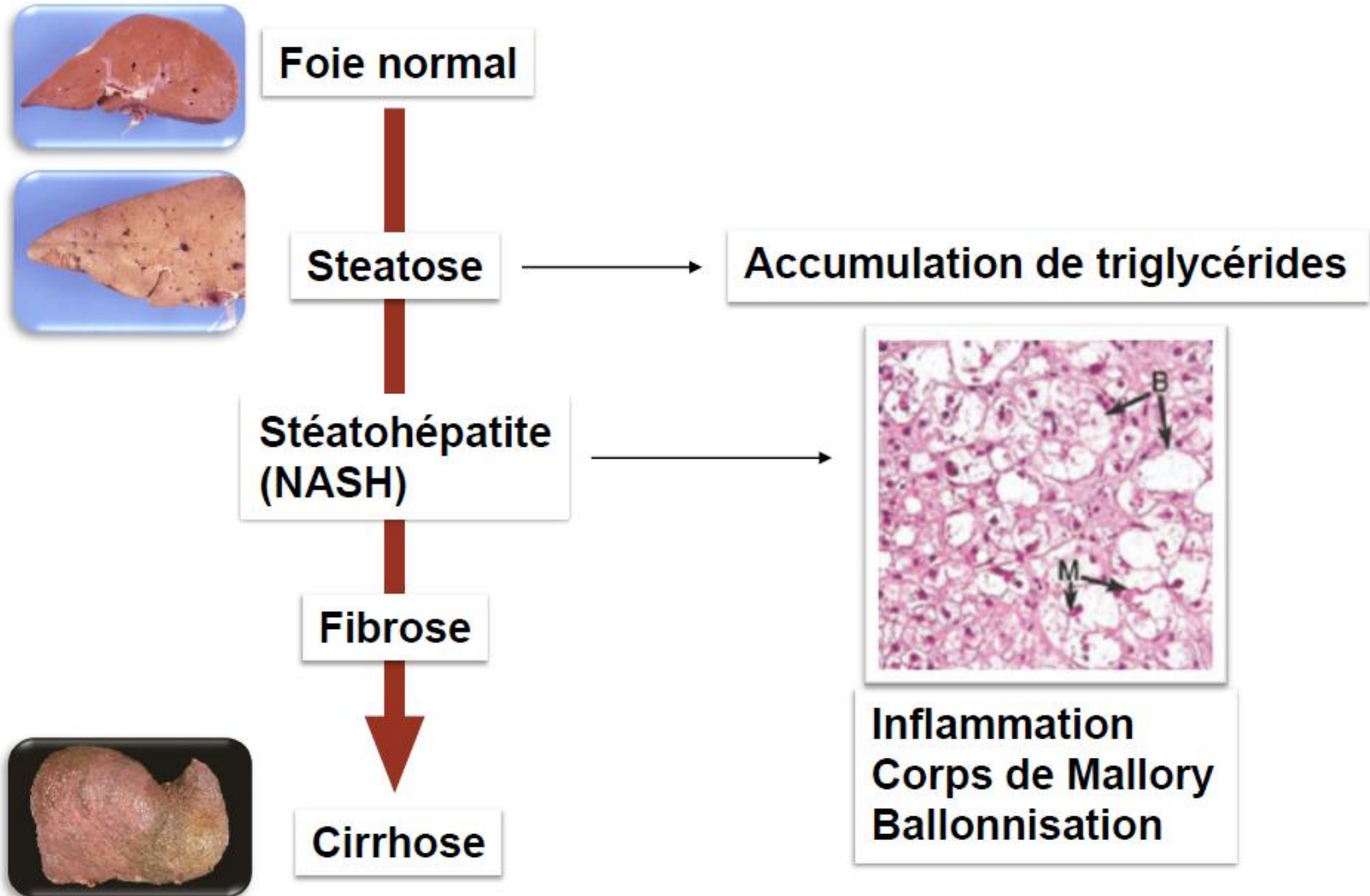
## NAFLD et Alcool

- **Prise en charge**
  - Hépatique
  - Extra-hépatique
- Traitement

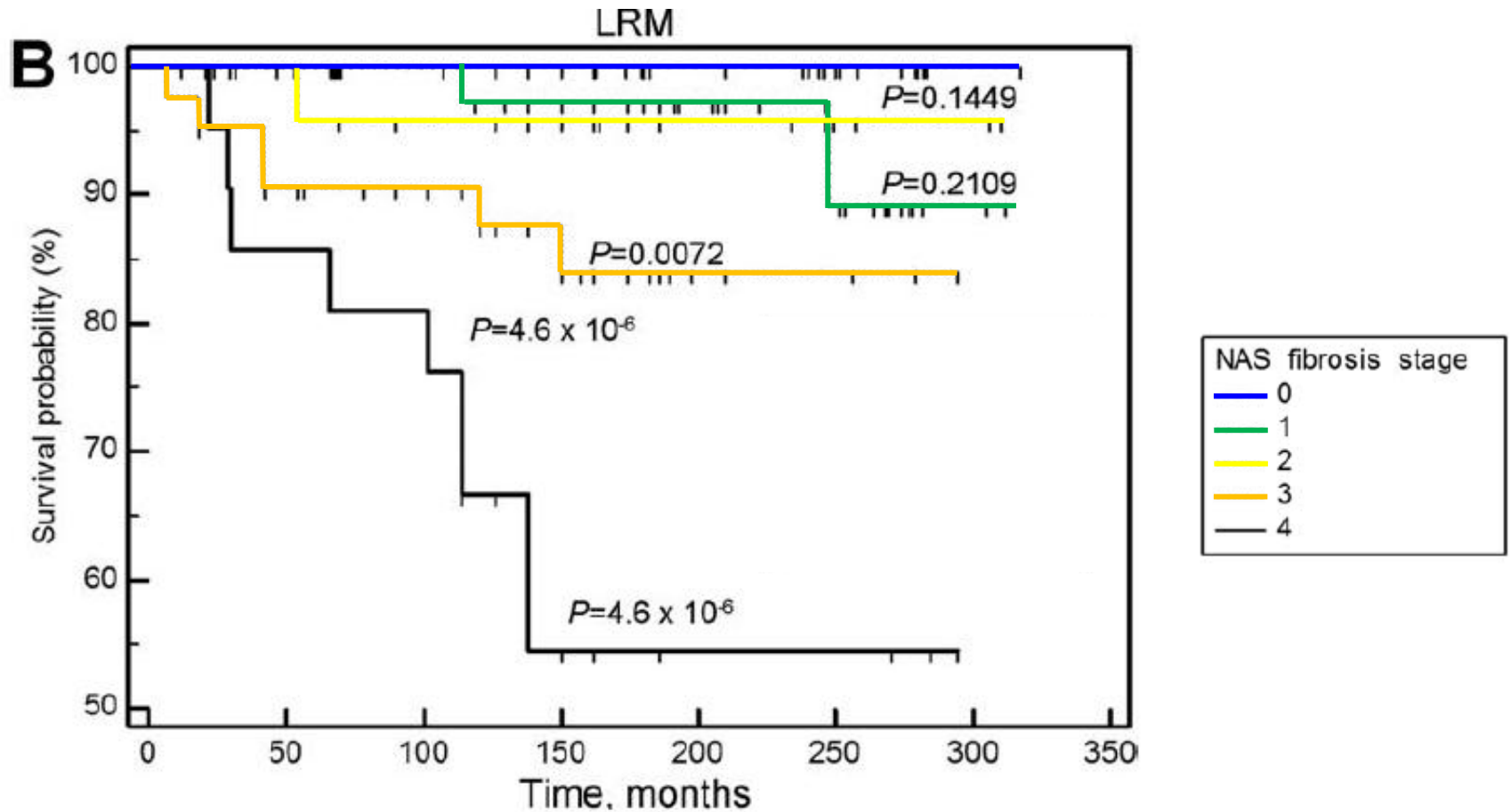
# Prévalence des hépatopathies chroniques aux Etats-Unis



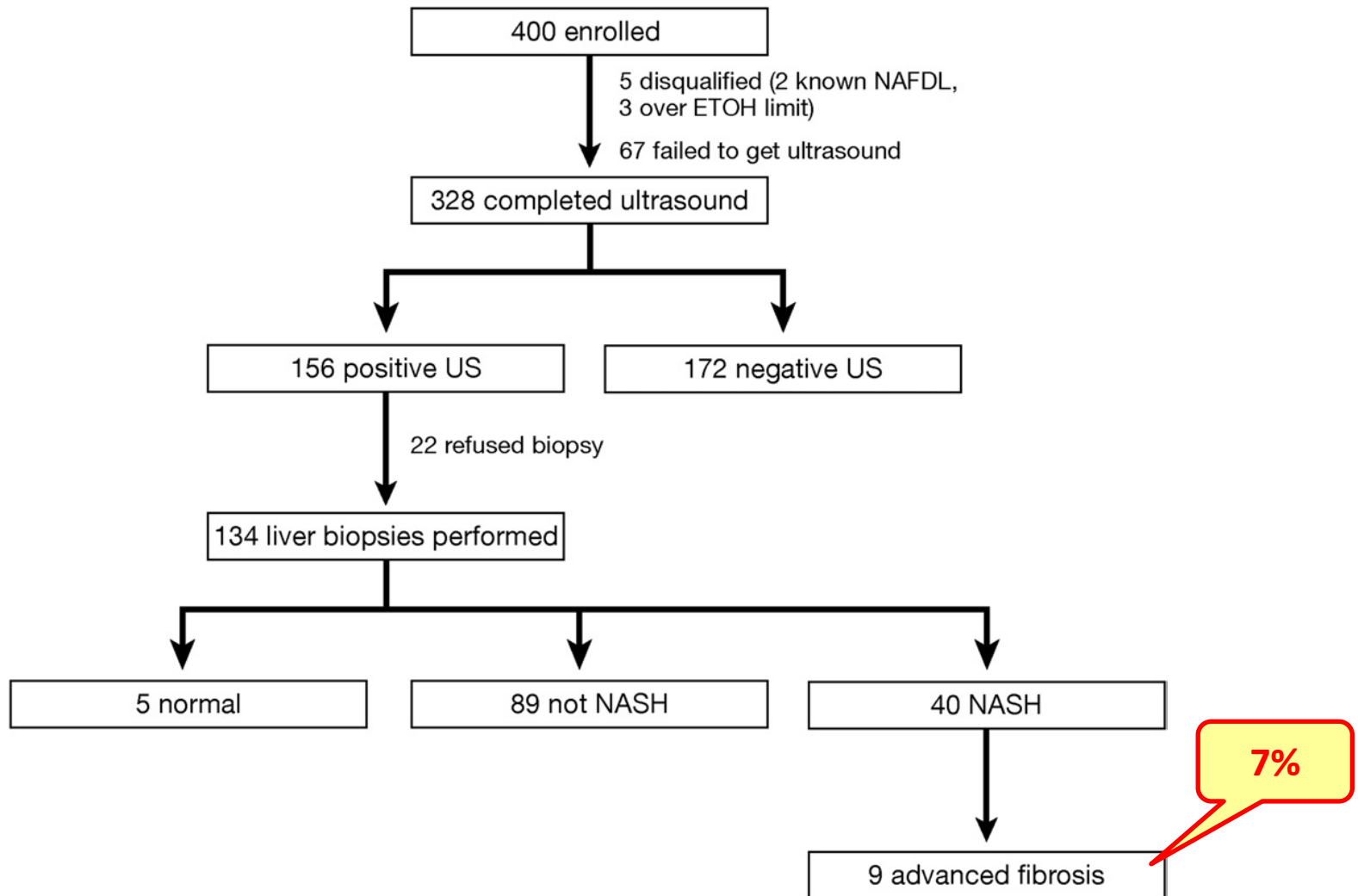
# Histoire Naturelle de la NAFLD



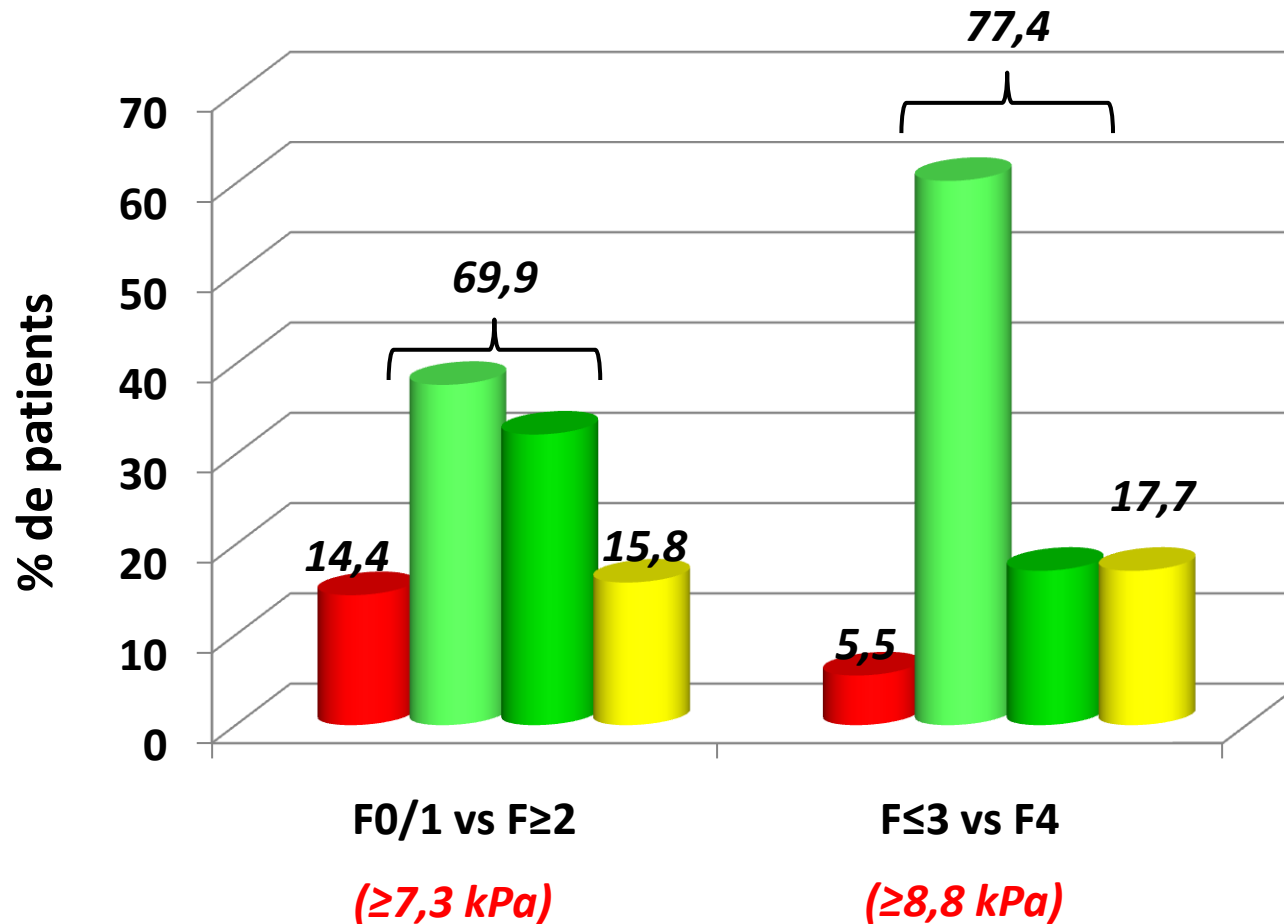
# Stades de fibrose et décès de cause hépatique



# Epidémiologie de la NAFLD



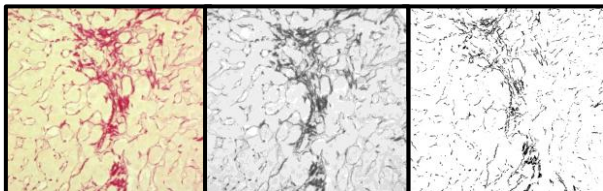
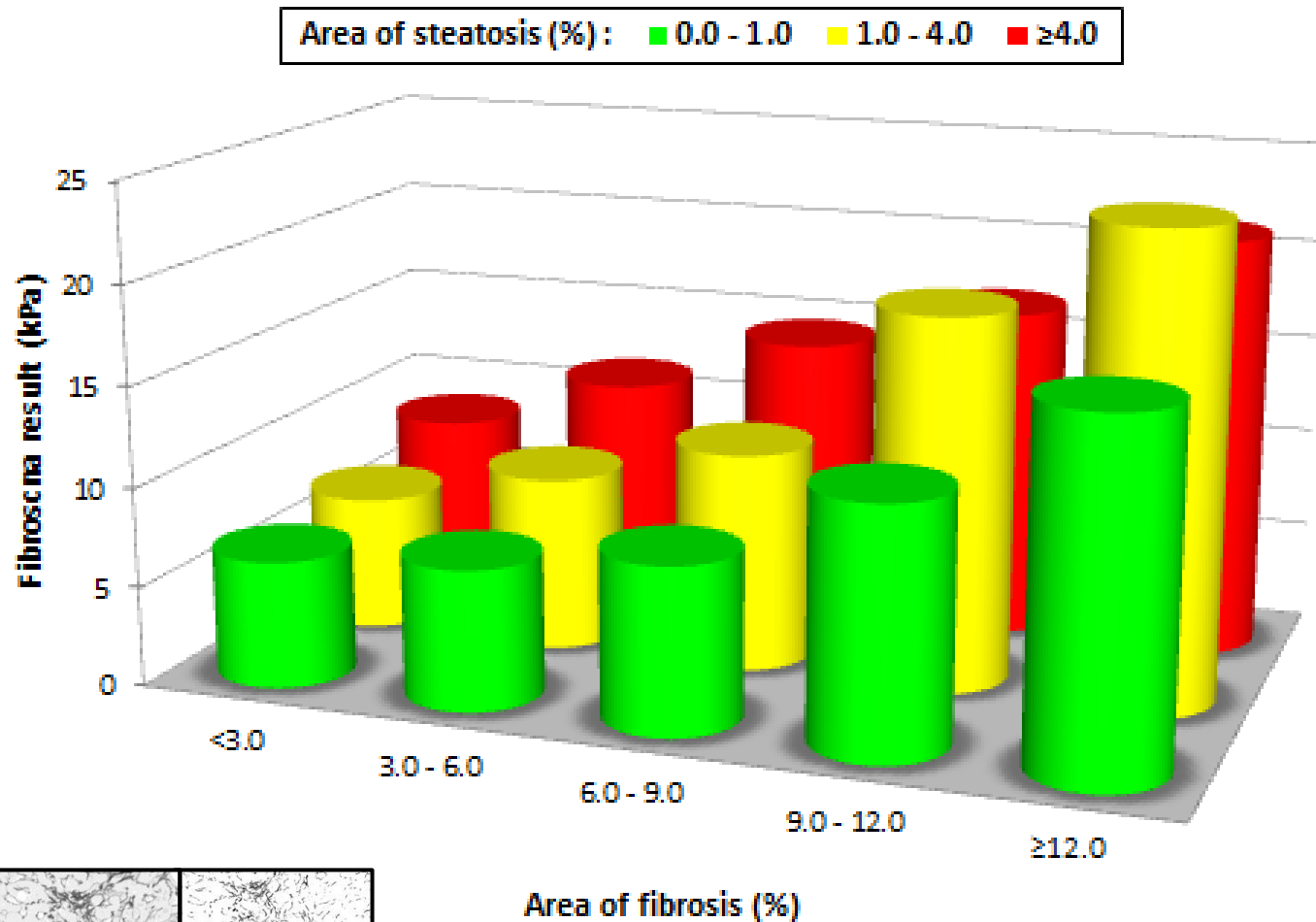
# Performance du Fibroscan dans la NAFLD



169 patients  
Echec : 14,3%



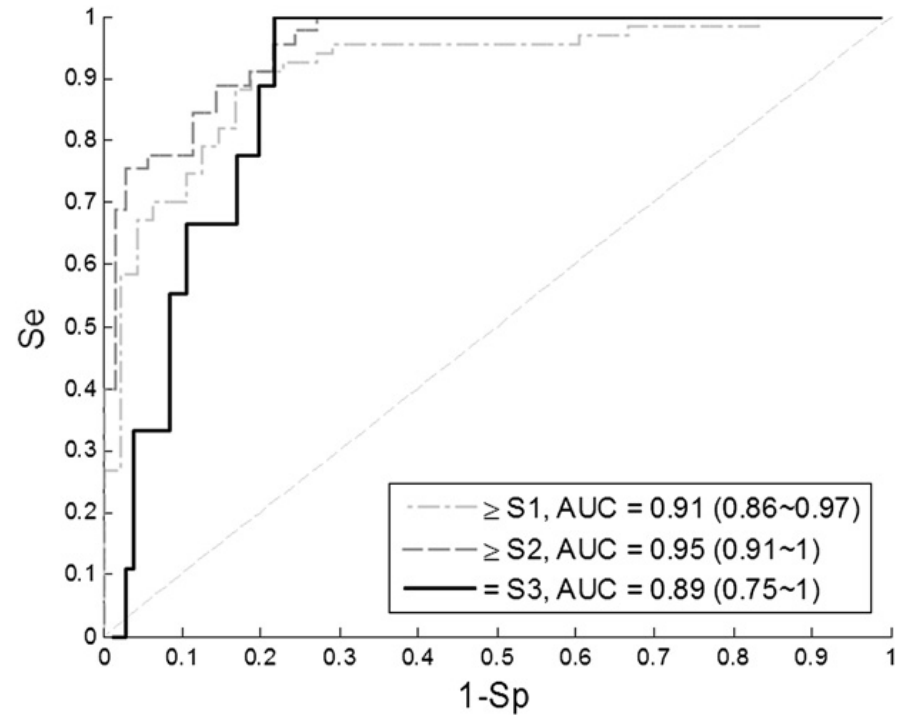
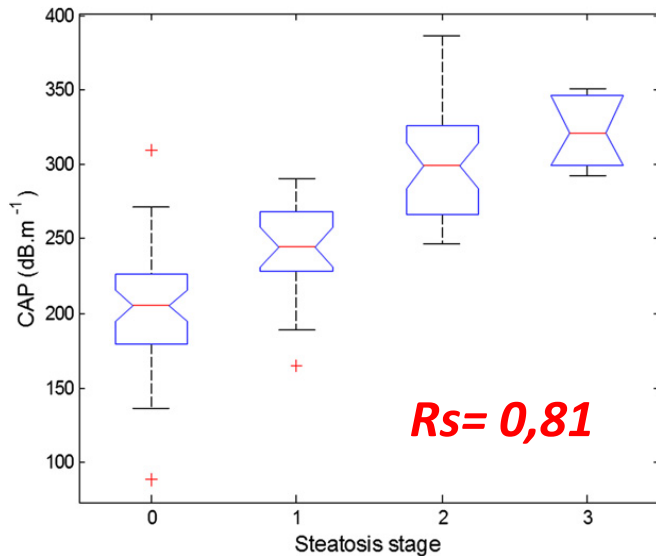
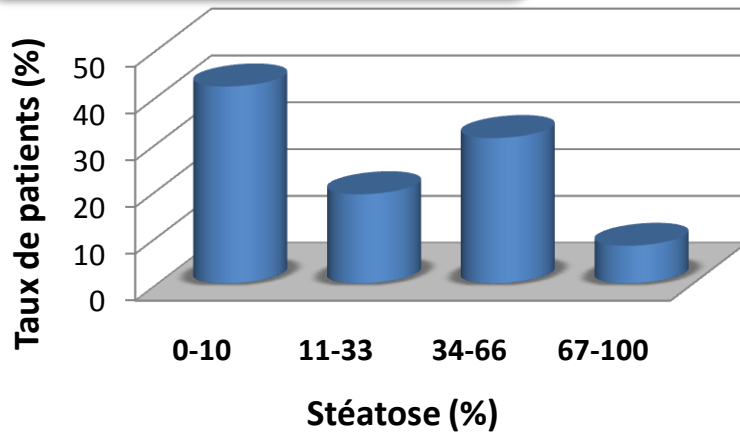
# Fibroscan et stéatose hépatique



# Controlled Attenuation Parameter (CAP)



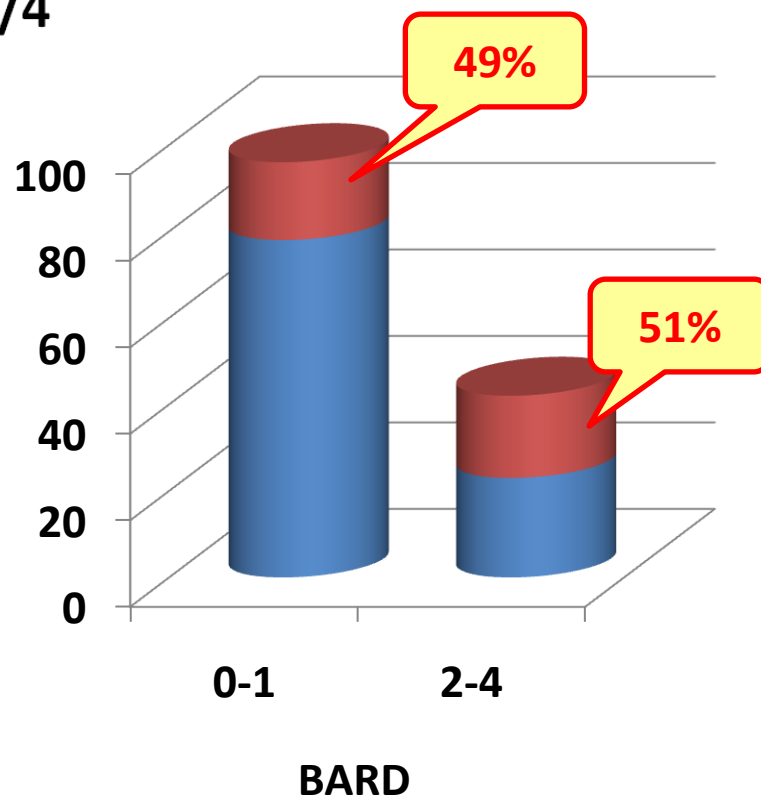
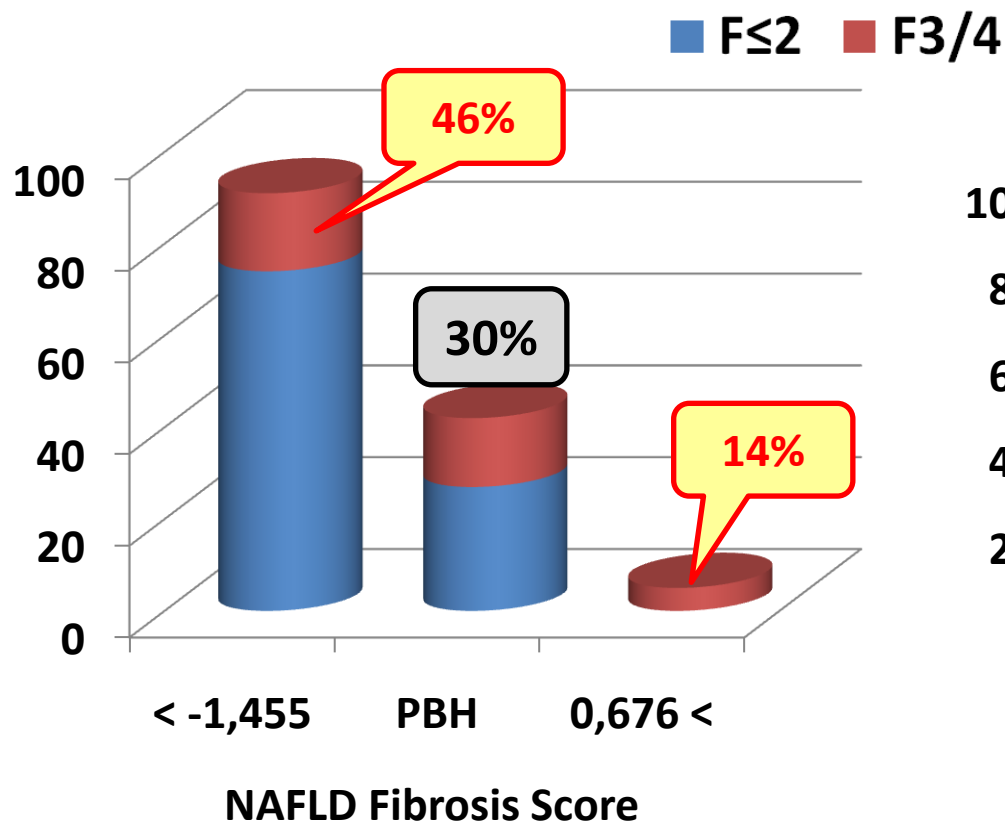
115 patients  
hépatopathie chronique



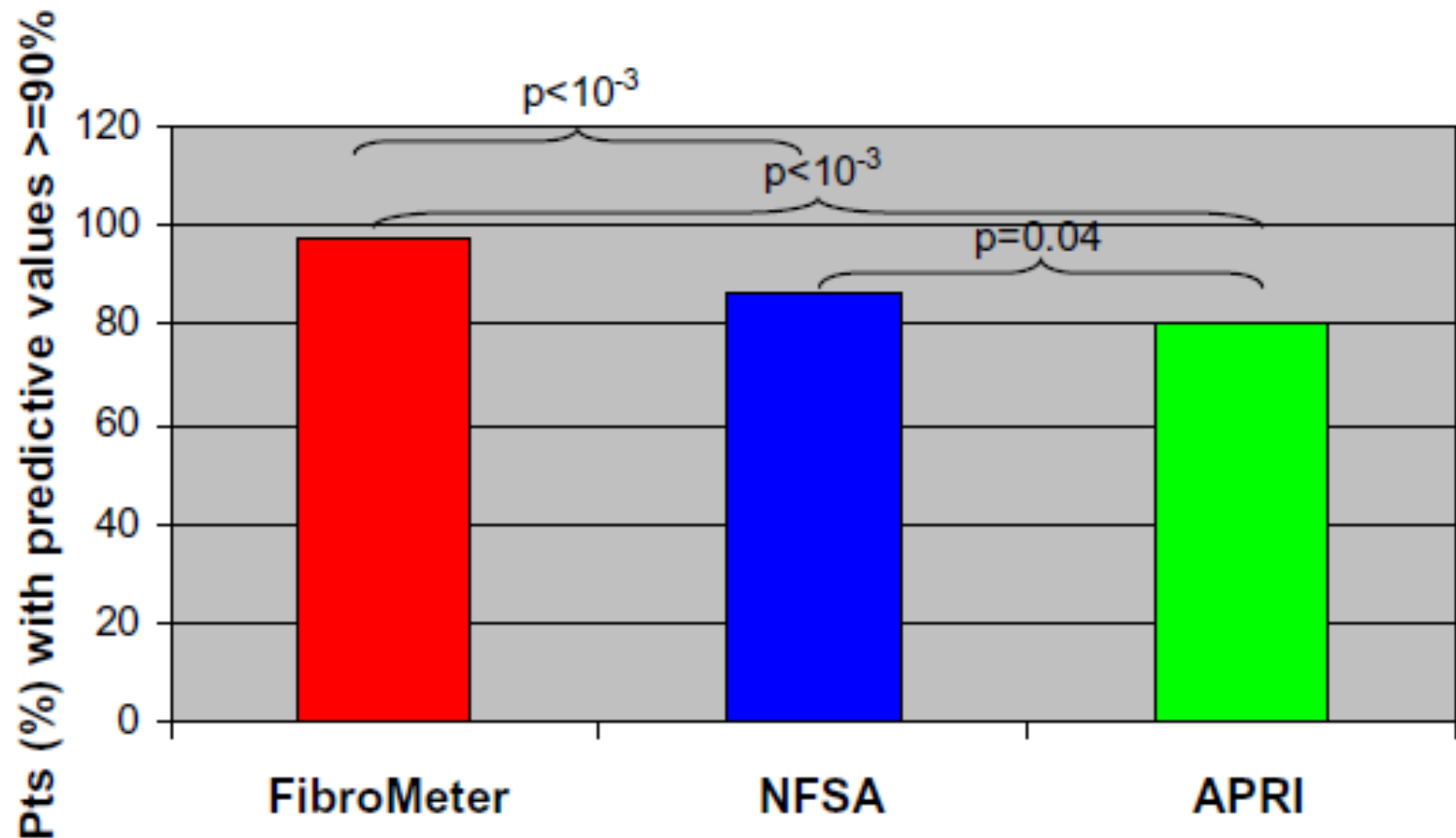
# Performance des tests sanguins dans la NAFLD

**BARD (0-4) :**  $ASAT/ALAT \geq 2 = 2$ ;  $BMI \geq 28 = 1$ , diabète = 1

**NFSA :**  $0,037 * \text{age} + 0,094 * BMI + 1,13 * IFG/diabetes + 0,99 * AST/ALT - 0,013 * \text{platelets} - 0,66 \text{ albumin} + 1,675$

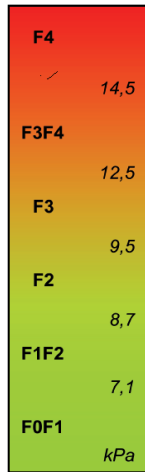


# Performance des tests sanguins dans la NAFLD



# Combinaison de tests ?

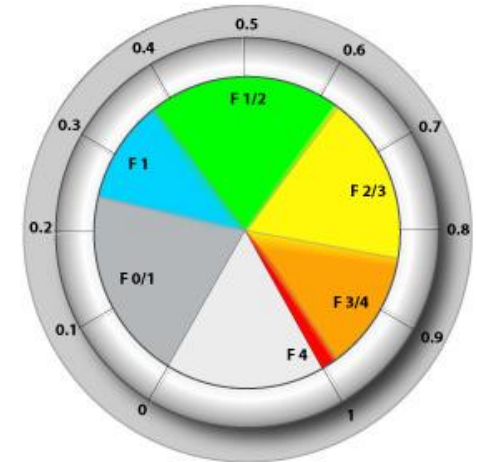
Fibroscan



**Fibroscan classification**

*Diagnostic accuracy: 58.7%*

FibroMeter



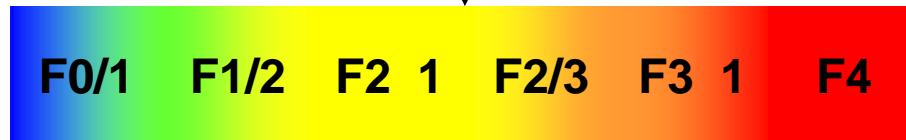
**FibroMeter classification**

*Diagnostic accuracy: 68.7%*

Fibroscan  
Result (kPa)

FibroMeter  
result (0-1)

Computerization

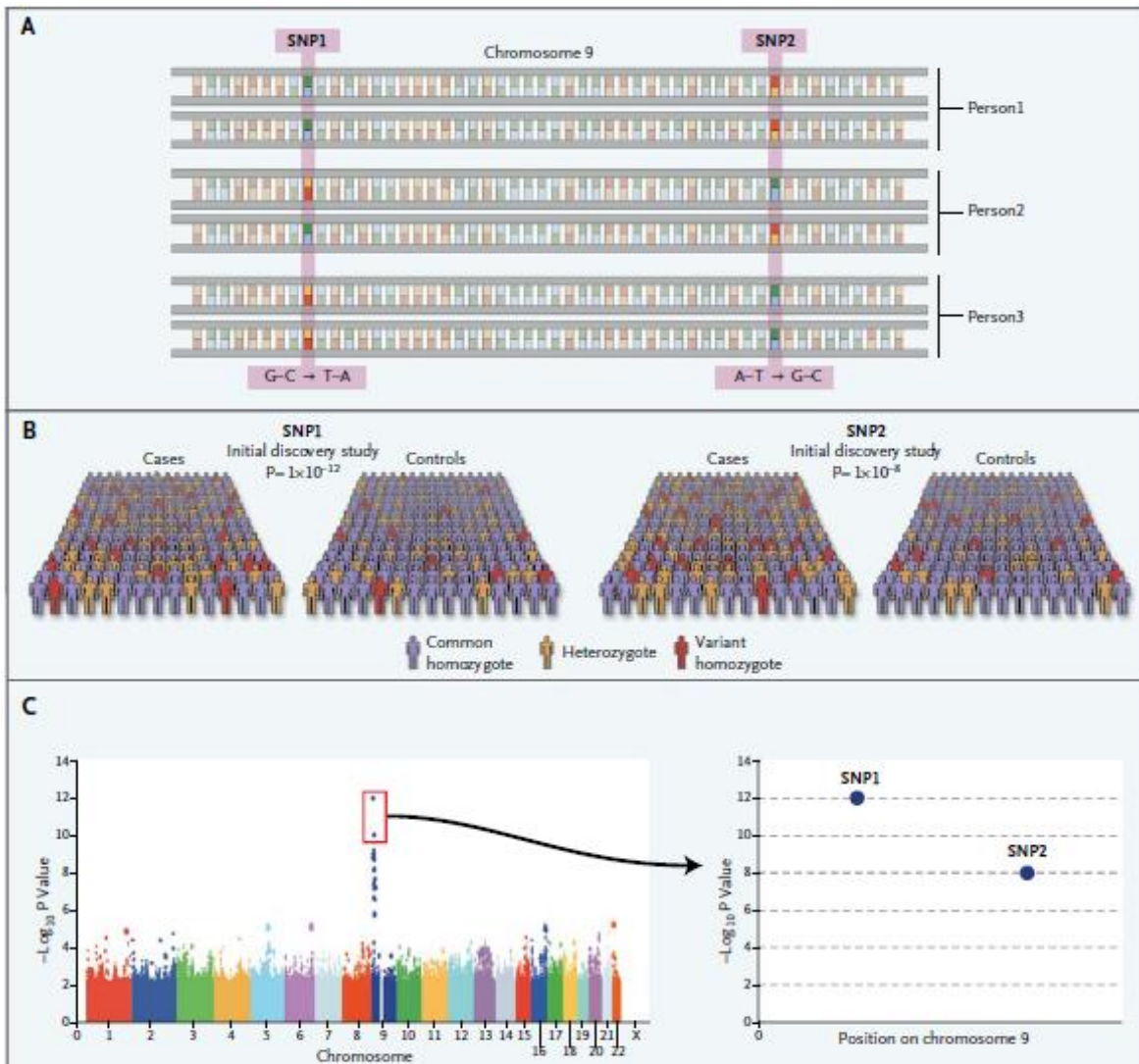


**CSF/SF classification**

*Diagnostic accuracy: 86.7%*

*Boursier, AJG 2011*

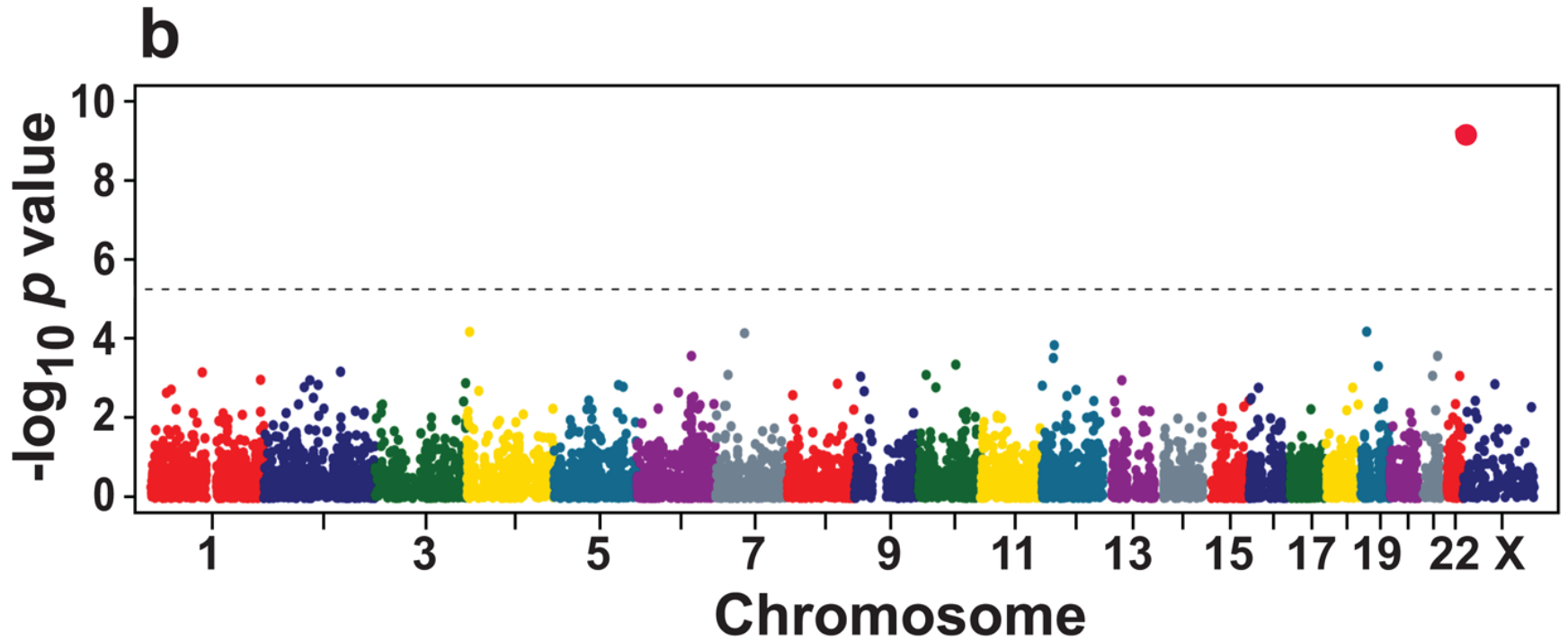
# Genome Wide Association Studies



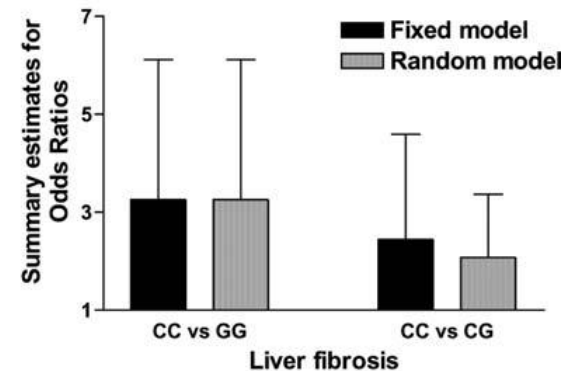
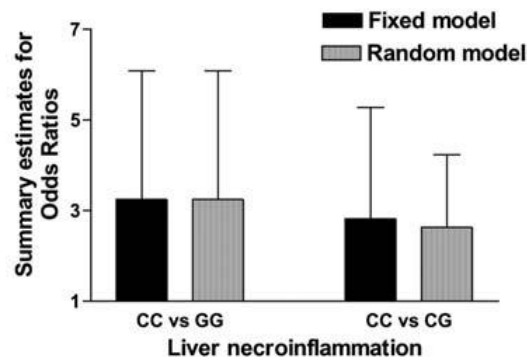
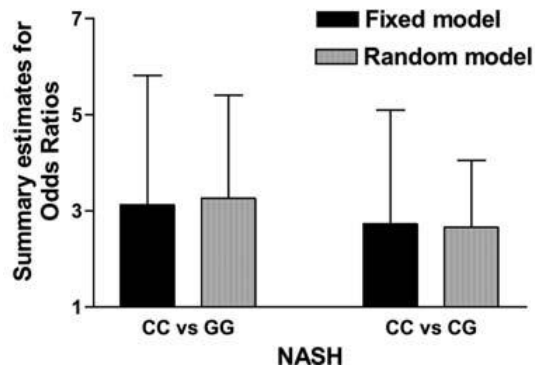
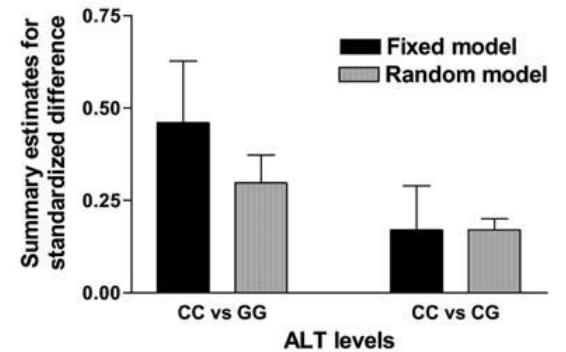
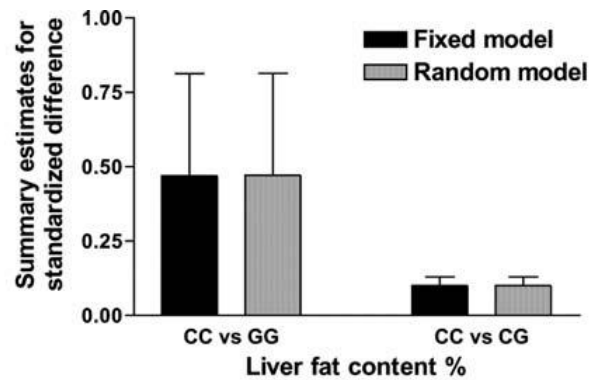
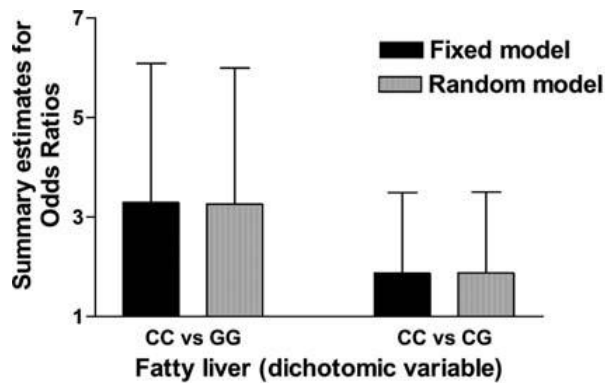
**Figure 1. The Genomewide Association Study.**

The genomewide association study is typically based on a case-control design in which single-nucleotide polymorphisms (SNPs) across the human genome are genotyped. Panel A depicts a small locus on chromosome 9, and thus a very small fragment of the genome. In Panel B, the strength of association between each SNP and disease is calculated on the basis of the prevalence of each SNP in cases and controls. In this example, SNPs 1 and 2 on chromosome 9 are associated with disease, with P values of  $10^{-12}$  and  $10^{-8}$ , respectively. The plot in Panel C shows the P values for all genotyped SNPs that have survived a quality-control screen, with each chromosome shown in a different color. The results implicate a locus on chromosome 9, marked by SNPs 1 and 2, which are adjacent to each other (graph at right), and other neighboring SNPs.

# Polymorphisme du gène PNPLA3



# Polymorphisme du gène PNPLA3 et sévérité de la NAFLD



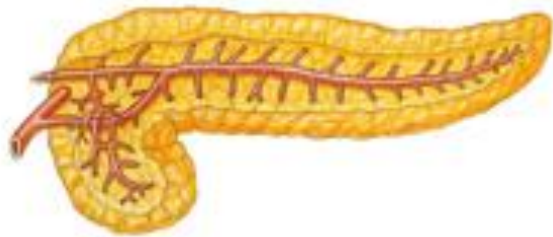


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# Maladie métabolique



Diabète



Stéatose



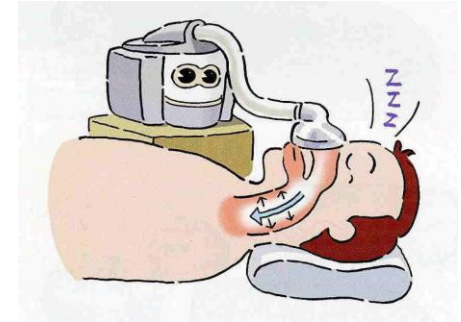
NASH



Fibrose



Cirrhose



Syndrome d'apnée  
du sommeil



Cardio-Vasculaires

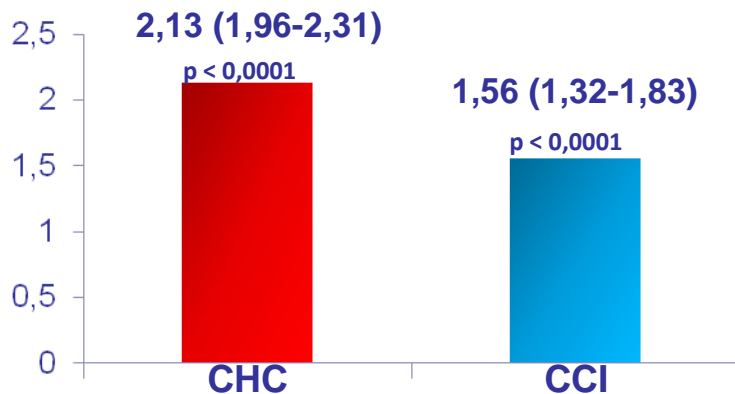


Cancer

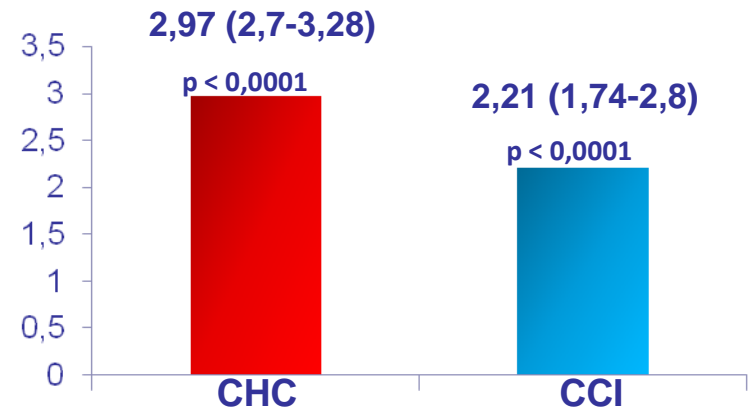
# CHC, cholangiocarcinome intrahépatique et syndrome métabolique

CHC 3 649 sujets ; CCI 743 sujets  
Contrôles (sans cancer) 195 953 sujets

Risque relatif attribuable  
au syndrome métabolique



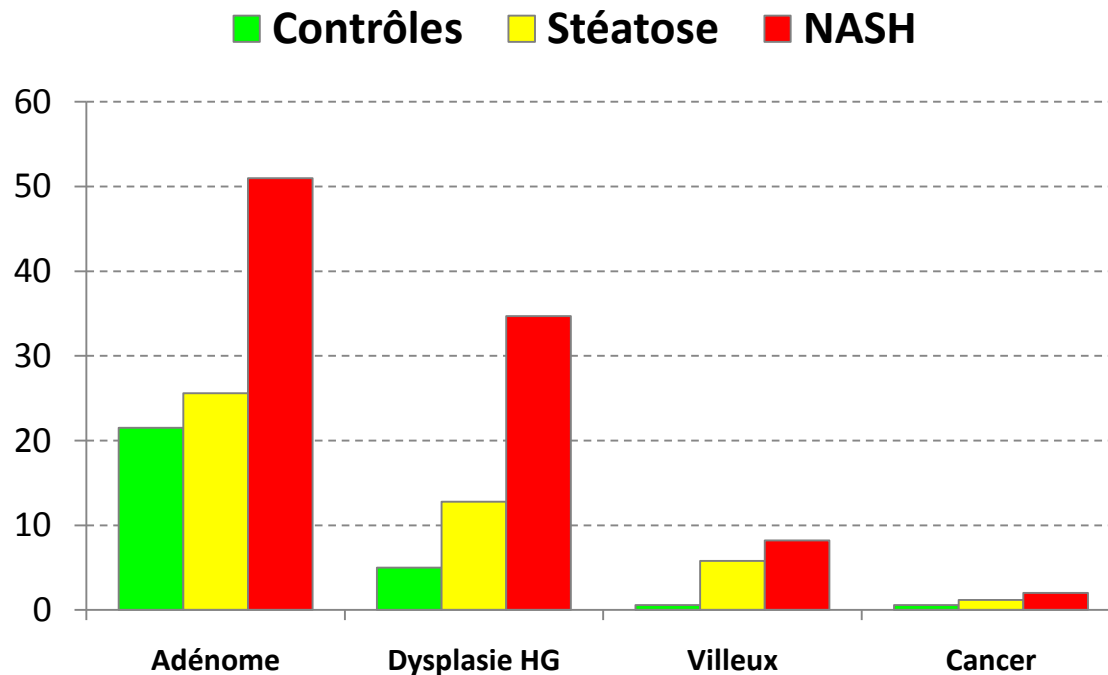
Risque relatif attribuable au tabac



➔ Le syndrome métabolique est un facteur de risque significatif des deux types de cancer primitif du foie et pourrait expliquer certains CHC et CCI “idiopathiques”

# NAFLD et Cancer du Colon

- 245 patients population générale : 181 contrôles, 64 avec stéatose (spectro-RM)
- 135 NAFLD avec biopsies



**NAFLD : facteur indépendant de polype avancé (OR 3,04) mais pas de polype colorectal**  
**NASH : facteur indépendant de polype avancé (OR 5,3) ou de polype colorectal (OR 4,9)**

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# Exercise physique

**N=807**  
Adults enrolled in NASH  
CRN  
with histology data and  $\geq$   
5% steatosis and biopsy  
within 2 years of PA  
assessment

	Moderate physical activity (minutes a week)	Vigorous physical activity (minutes a week)
Minimum targets	$\geq 150$	$\geq 75$
Targets for more extensive health benefits	$\geq 300$	$\geq 150$

**N= 492**  
Met neither Vigorous nor  
Moderate Physical Activity  
Recommendations

Excluded: **N= 54**  
Reported  $\geq 500$   
MET/min per week

**N= 438**  
Inactive

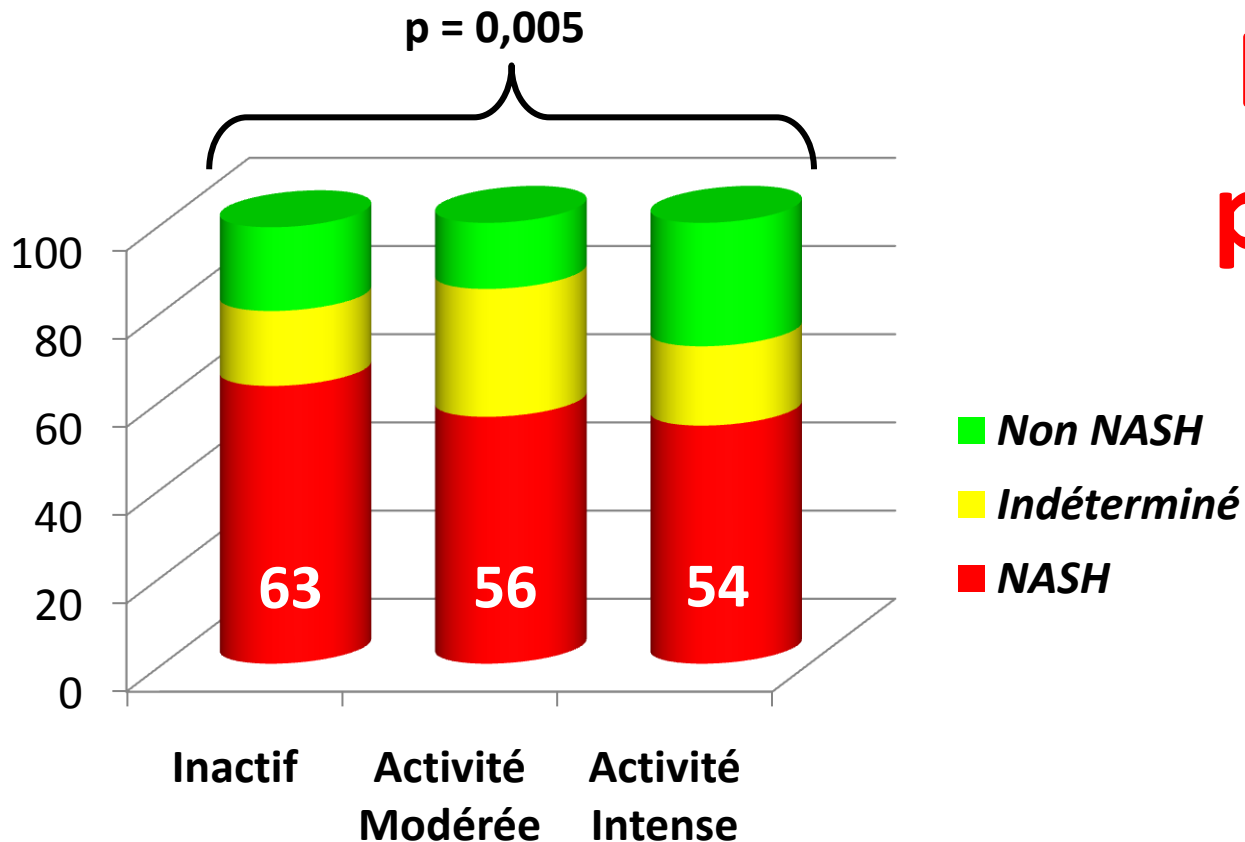
**N= 162**  
Met Moderate Physical  
Activity Recommendations  
(and not vigorous  
recommendations)

**N= 213**  
Met Vigorous Physical  
Activity Recommendations

**N= 77**  
Met recommendations for  
additional health benefits

**N= 125**  
Met recommendations for  
additional health benefits

# Exercice physique



Odd Ratios (ajustés) :

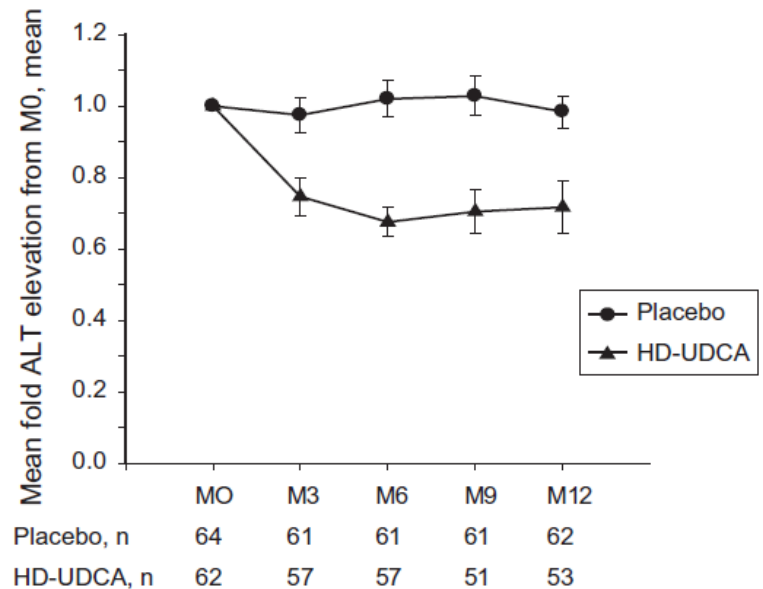
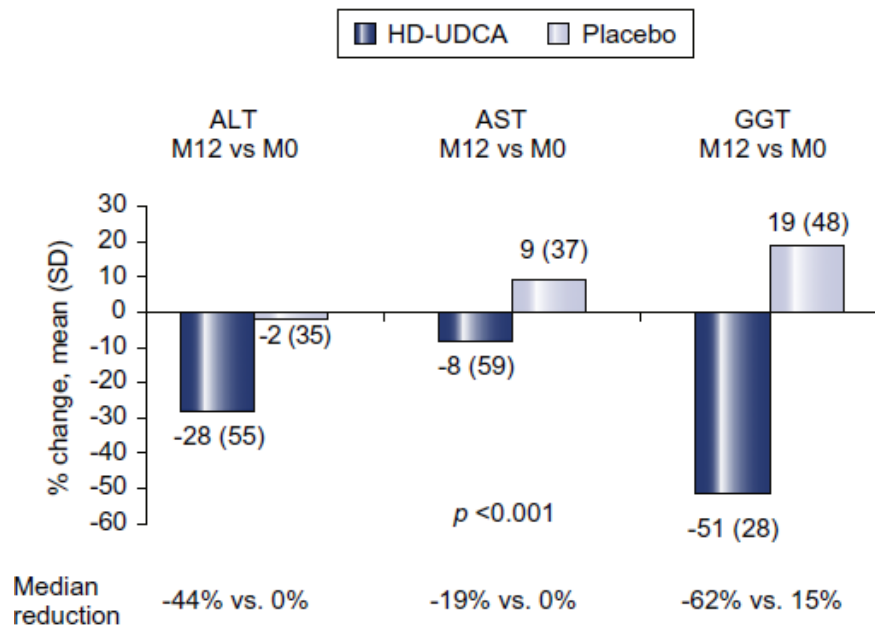
	Activité Modérée		Activité Intense	
	Minimum	« Etendue »	Minimum	« Etendue »
NASH	NS	NS	0,65	0,56
Fibrose F $\geq$ 3	NS	NS	NS	0,53

# Traitements médicamenteux

- **Glitazones**
- **Vitamine E**
- **Sartan**
- **AUDC**
- **...**
- **Autres :**
  - Alcool
  - Café
  - Tabac



# Acide UrsoDésoxycholique

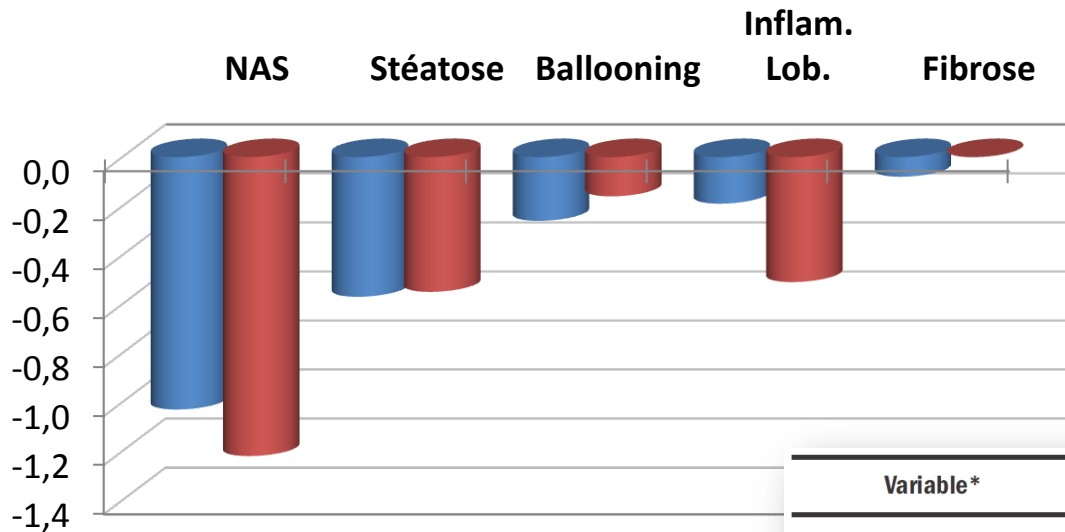


Parameter	HD-UDCA	Placebo	<i>p</i>
Serum glucose level	-2.2	+3.9	0.002
HbA1c level	-2.3	+5.2	<0.001
Insulin level	-19	-0.2	0.038
HOMA score	-20	+6	<0.009

\*Percent relative change between baseline median values and M12.

# Acide UrsoDésoxycholique

■ Placebo ■ AUDC



265 non randomisés

Screening  
451

Randomisés  
186

39 exclus

Per-Protocole  
147

Variable*	UDCA	Placebo	P Value
Total bilirubin, mean/SD	0.15/0.89	-0.24/0.91	0.061
AST, mean/SD	-16.46/30.83	-14.30/28.84	0.917
ALT, mean/SD	-40.63/58.37	-38.15/62.60	0.851
AP, mean/SD	-10.52/47.65	-9.43/43.88	0.792
GGT, mean/SD	-52.42/64.19	-16.84/53.98	<0.0001
Albumin, mean/SD	0.22/3.62	-0.66/4.26	0.289
Triglycerides, mean/SD	-0.18/1.19	-0.17/1.21	0.828
Cholesterol, mean/SD	-85.09/109.04	-88.29/105.53	0.973
Glucose, mean/SD	-0.19/2.24	-0.08/2.49	0.193
Iron, mean/SD	-0.31/7.83	-0.58/7.50	0.530

# Etude de Leuschner

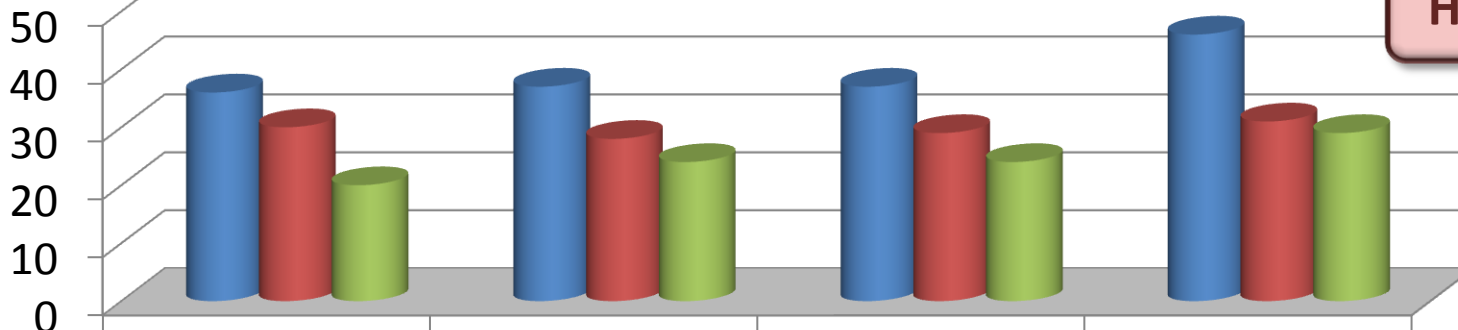
- Beaucoup d'exclus
- AUC : 23 - 28 mg/kg
- Critères d'évaluation semi-quantitatifs
- Groupe placebo ?
- Effet métabolique ?

# Alcool et NAFLD

Consommation (j/sem) : 1-3 4-6 7

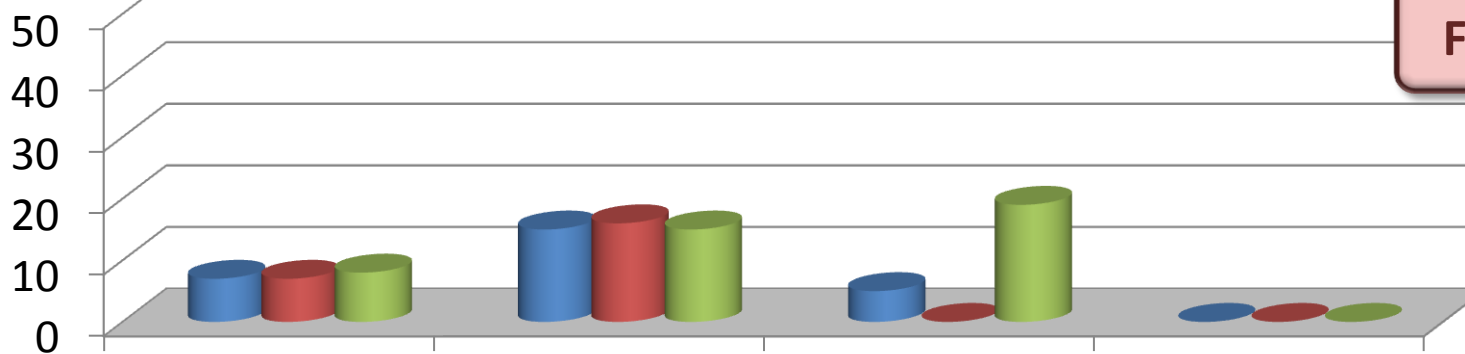
Patients avec stéatose (%)

Hommes



Patients avec stéatose (%)

Femmes



0-20

20-40

40-60

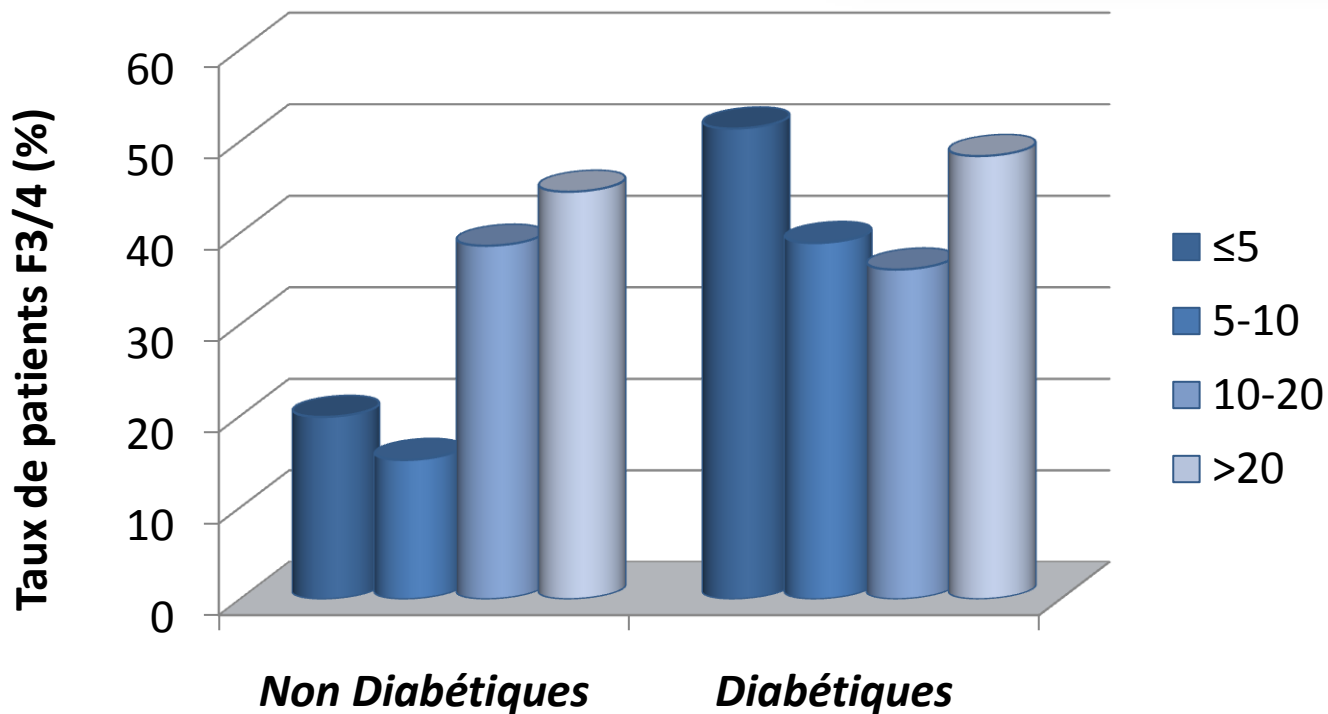
≥60

Alcool (g) par jour de consommation

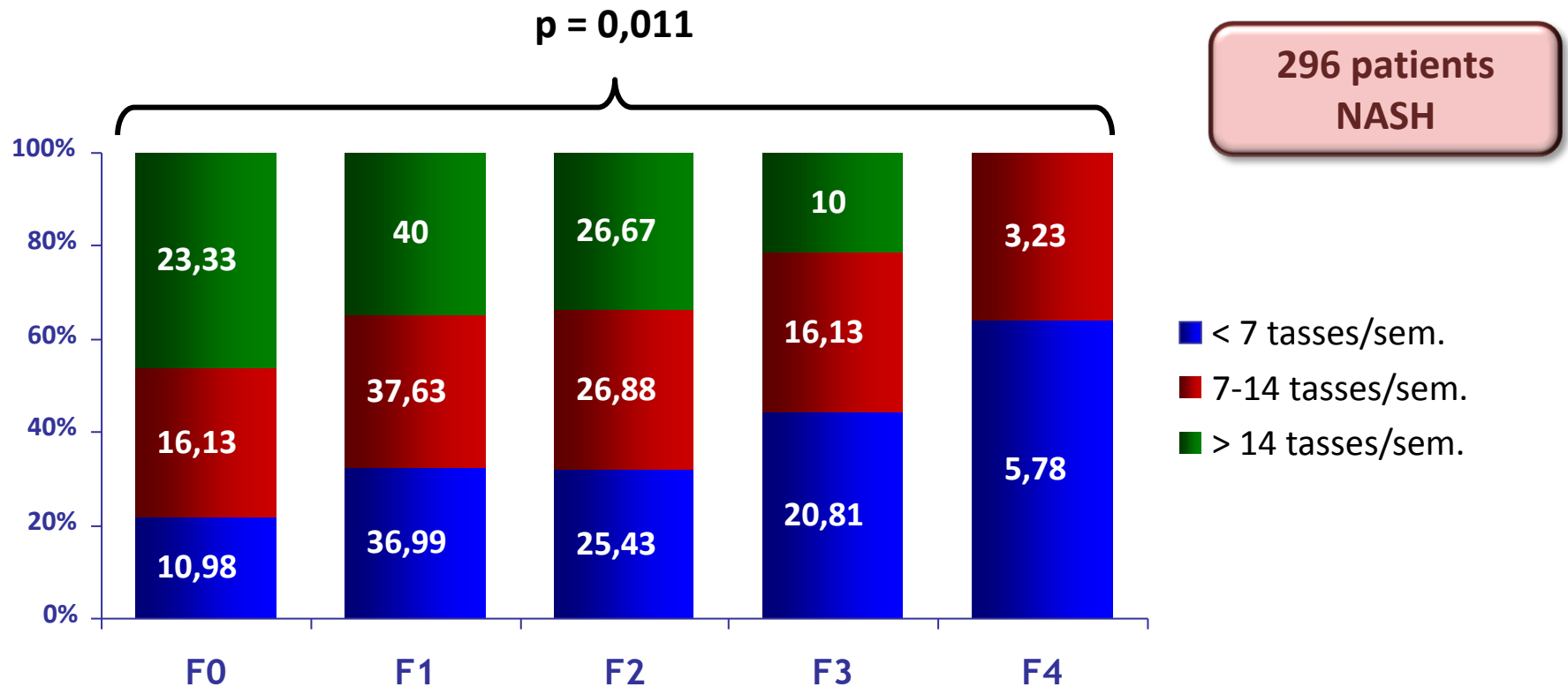
# Tabac et NAFLD

**1091 patients NAFLD**  
Facteurs associés à F3/4

	OR (95% CI)	p-value
History of $\geq 10$ vs. $< 10$ pack-years of smoking	1.63 (1.19-2.24)	0.003
Age, years	1.06 (1.04-1.07)	$< 0.0001$
DM, yes vs. no	2.44 (1.83-3.26)	$< 0.0001$
Alcohol use, not lifetime abstinent versus lifetime abstinent	0.62 (0.46-0.82)	0.0008

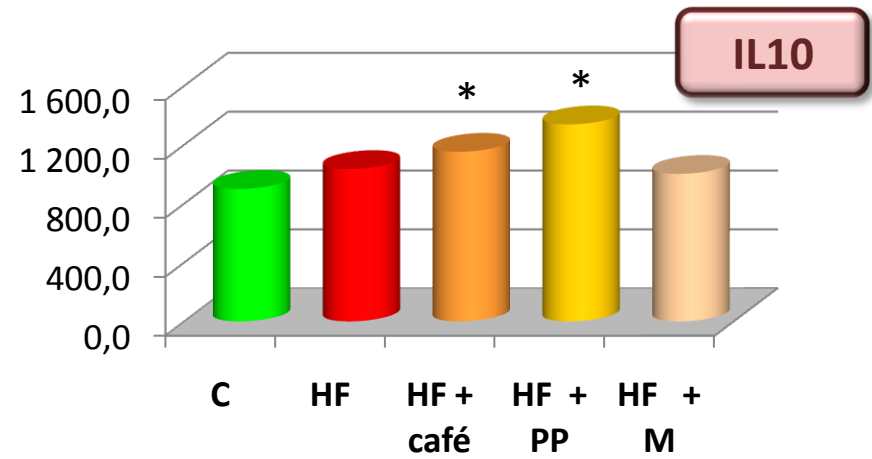
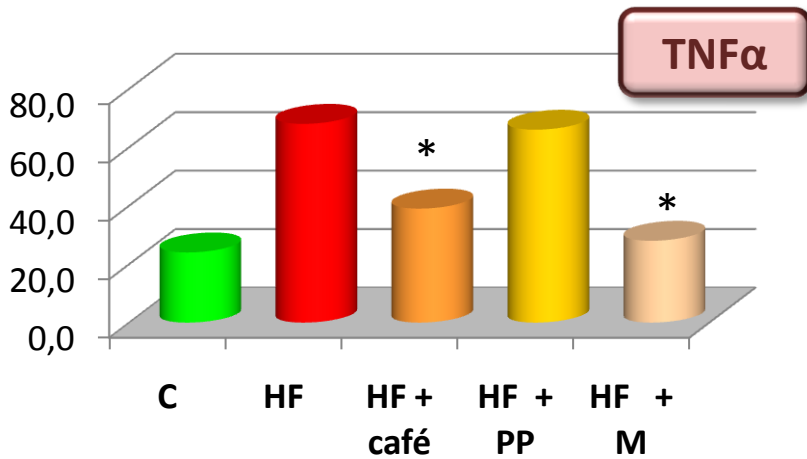
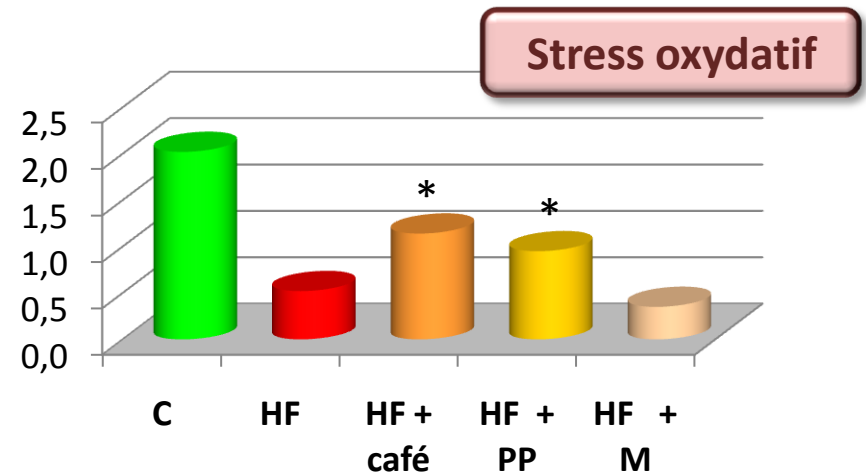
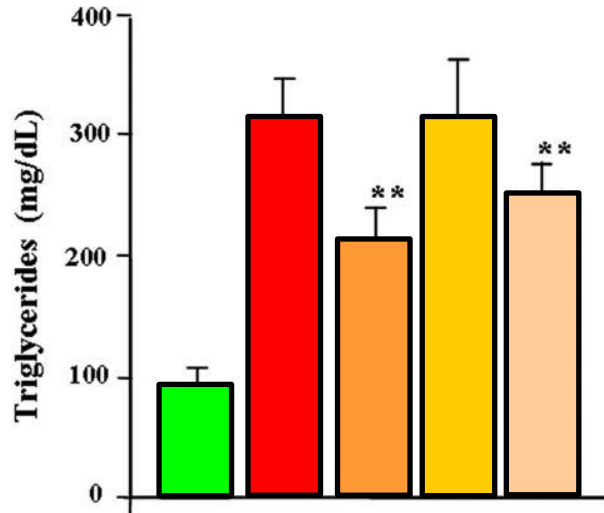


# Café et Fibrose dans la NAFLD

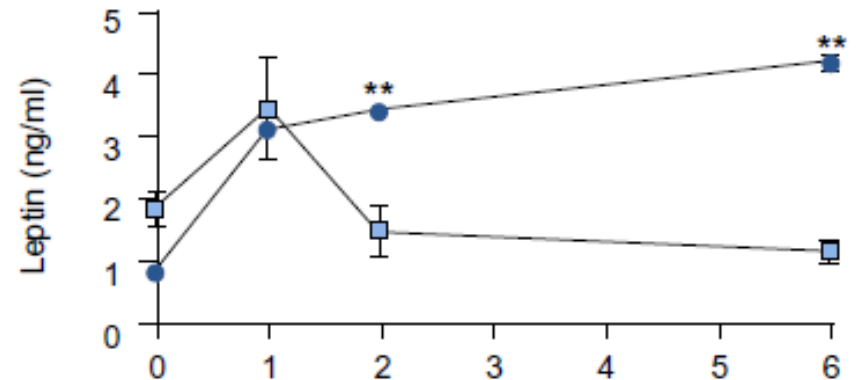
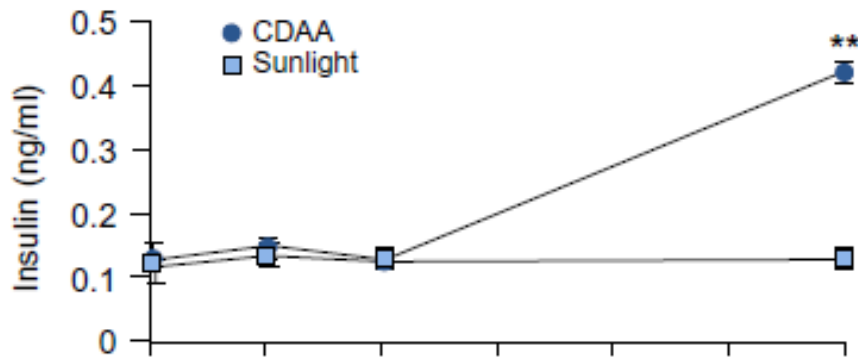
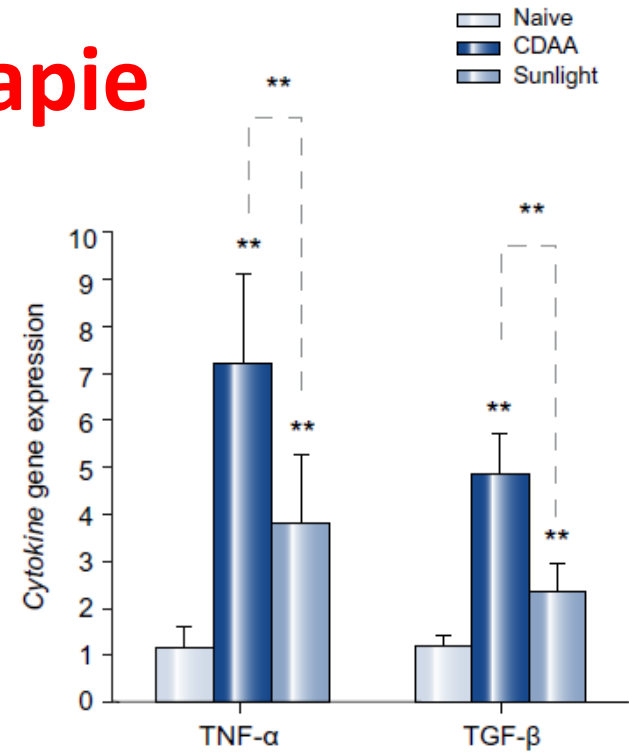
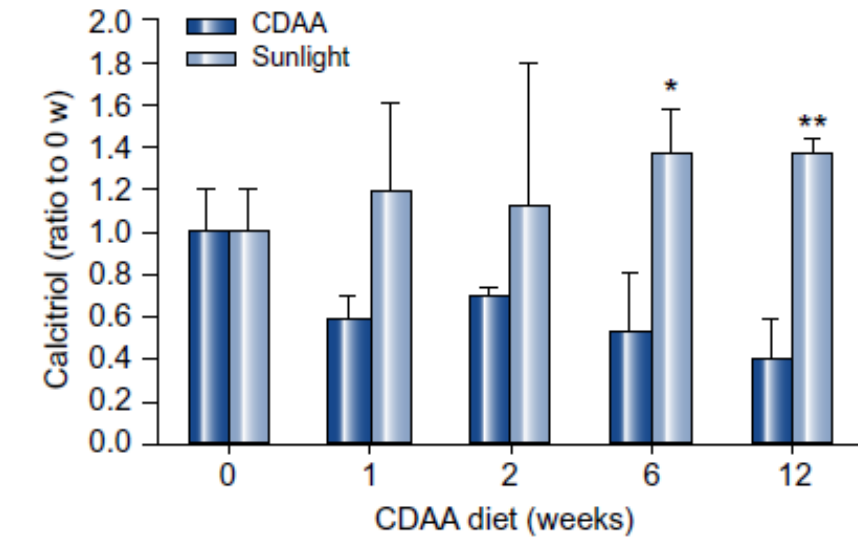


L'analyse du profil d'expression des gènes chez 48 patients a retrouvé une augmentation de l'expression de certains cytochromes (CYP 3A7, 7B1 et 26A1) et de l'enzyme UGT1 dont l'activité pourrait optimiser le métabolisme lipidique

# Café et NAFLD



# Luminothérapie





# Luminothérapie

