



« ARRETEZ DE FAIRE DU SPORT, VOUS ALLEZ FAIRE DE LA FA !!! »

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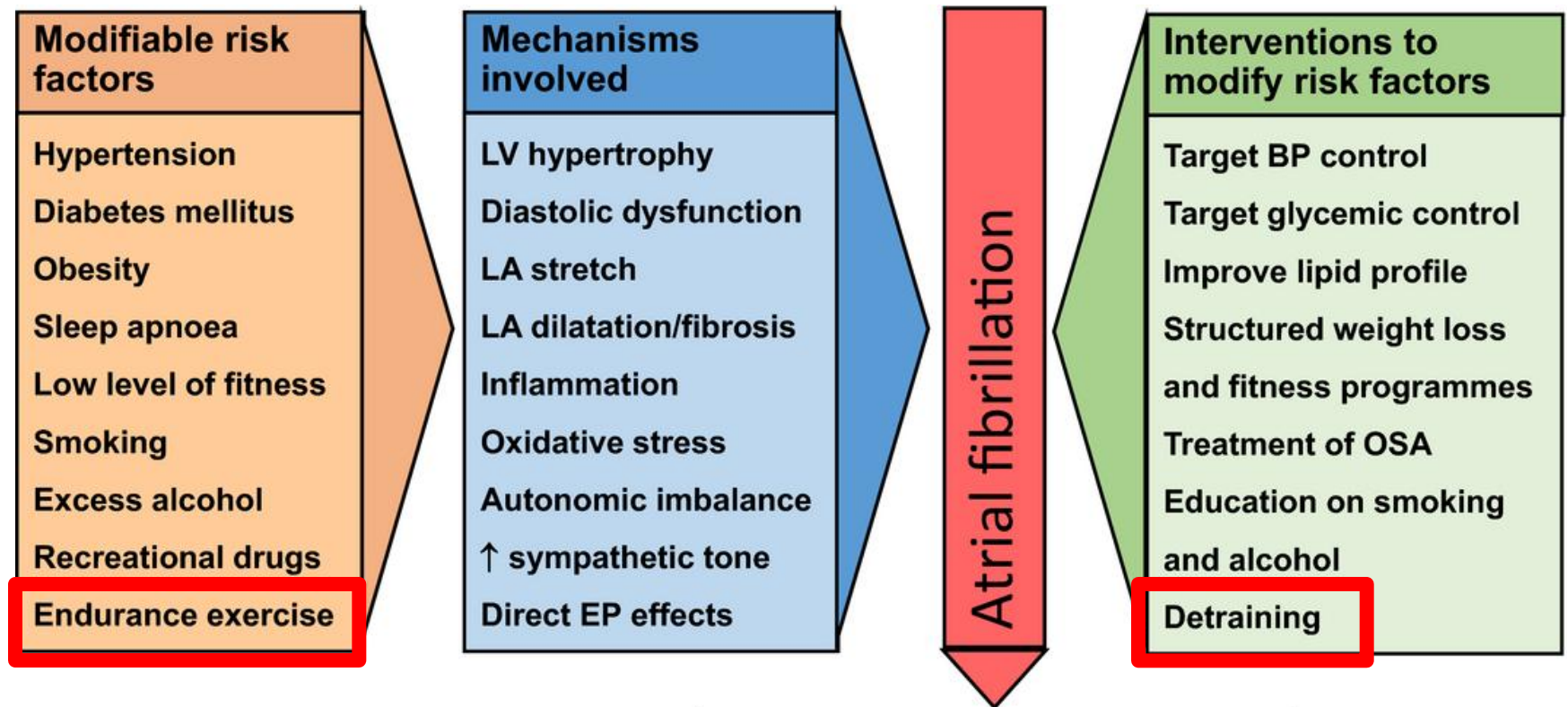
W. Churchill 1874-1965: 90 J

DCD à 91 ans



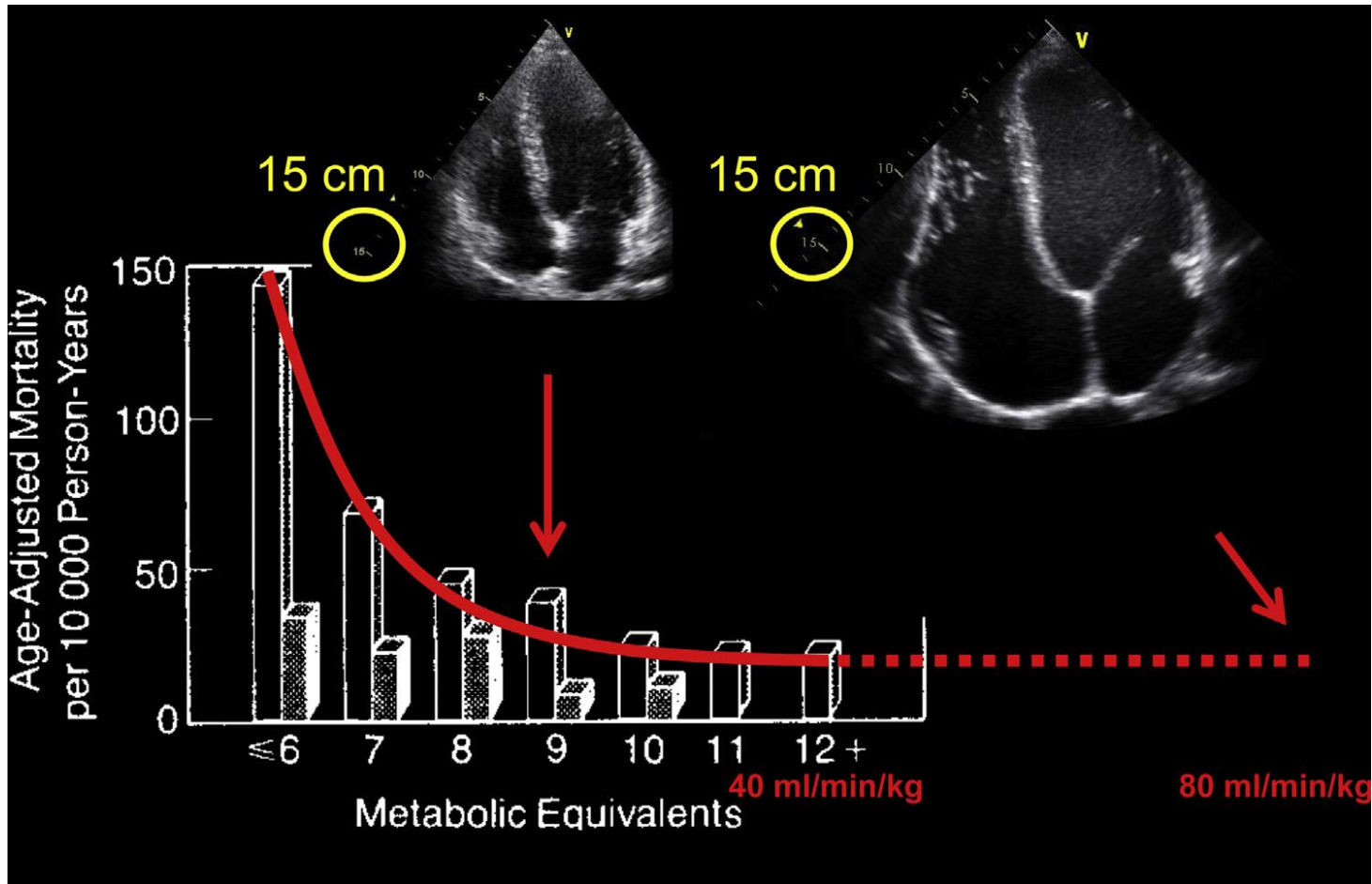
J. Fixx 1932-1984: 52 J

DCD à 53 ans

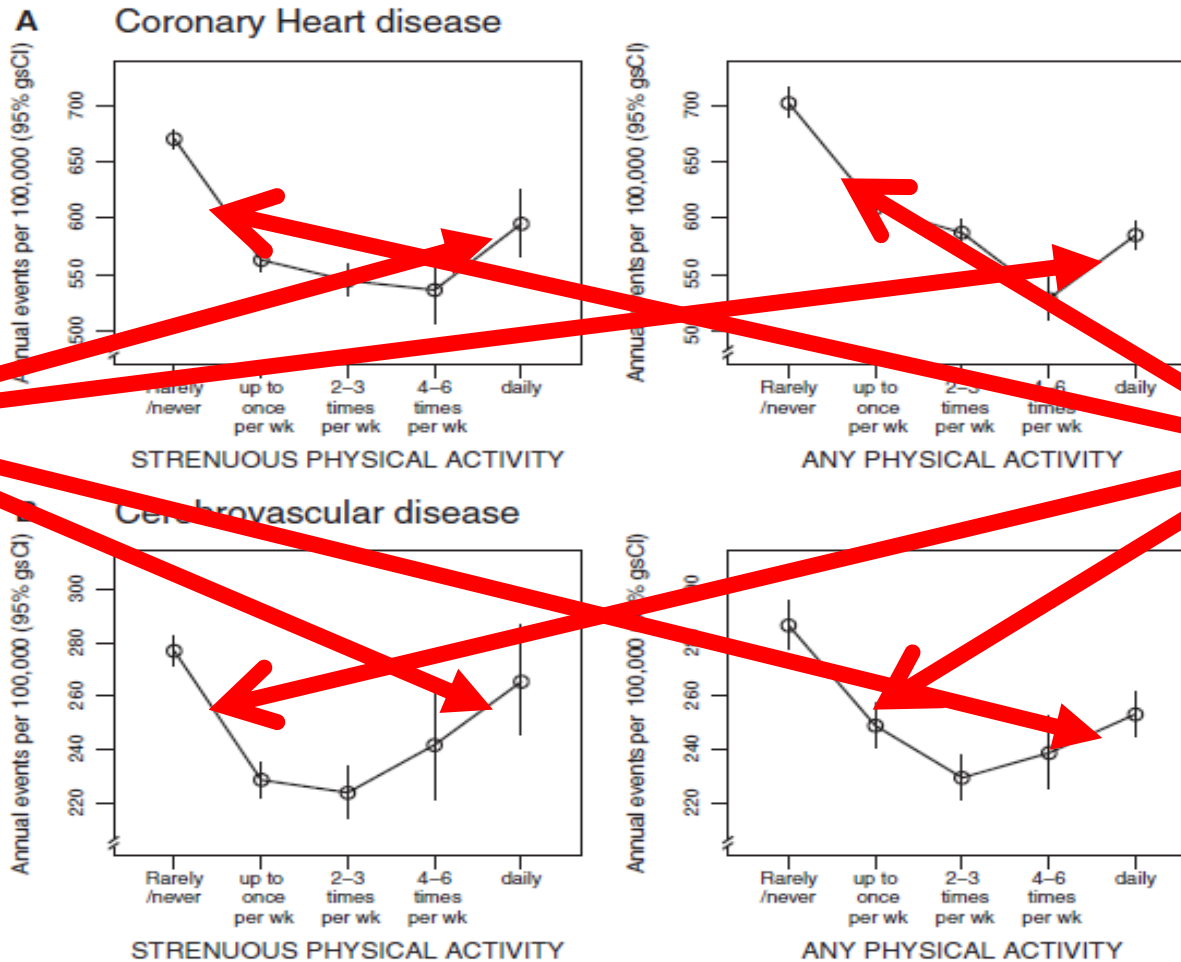


AF-related outcomes	
Symptoms	Stroke
Hospitalization	Heart failure
↓ Quality of life	Sudden death
Cognitive impairment/dementia	
Costs related to atrial fibrillation and its complications	

TOUT EST QUESTION DE VIGUEUR ...



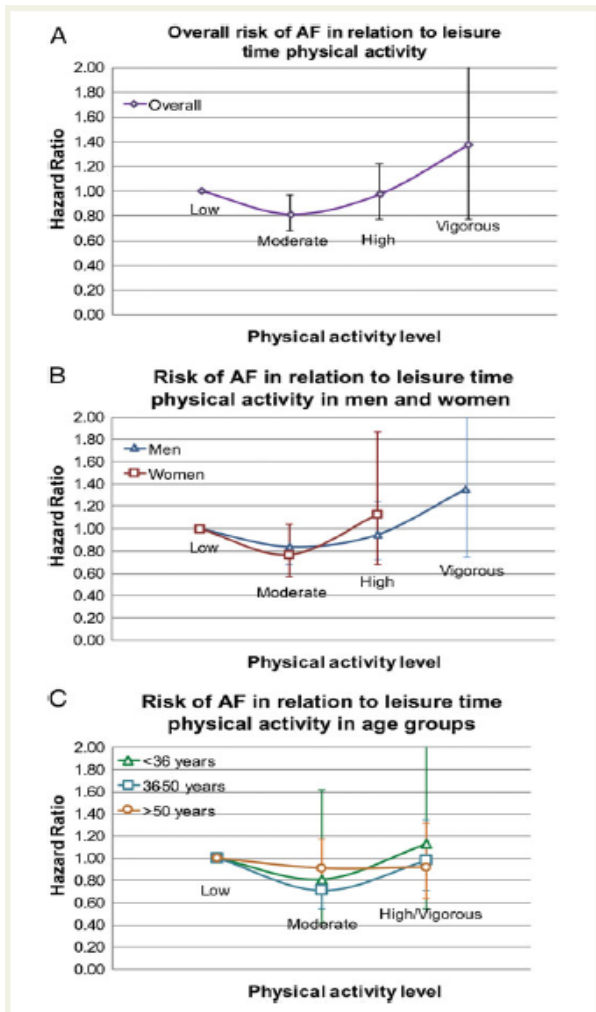
TOUT EST QUESTION DE VIGUEUR ...



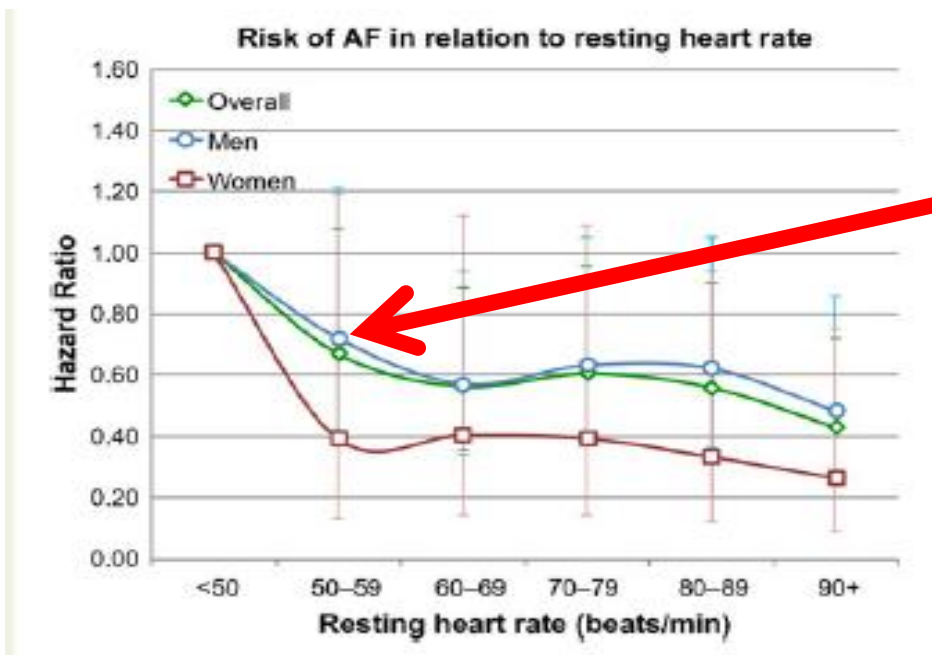
ET POUR LA FIBRILLATION ATRIALE ???

	Men (n = 10 300)				Women (n = 10 184)		
	Low activity	Moderate activity	High activity	Vigorous activity	Low activity	Moderate activity	High/vigorous activity ^a
N	2371	5110	2358	461	2420	6708	1056
Age (years)	39.0 (11.0)	40.8 (11.2)	37.4 (10.3)	30.1 (8.5)	36.8 (9.8)	37.3 (9.9)	34.5 (9.7)
Body height (cm)	177.0 (6.9)	177.1 (6.8)	178.1 (6.6)	178.6 (7.0)	164.0 (6.3)	164.4 (6.1)	165.6 (5.9)
Body weight (kg)	78.1 (12.2)	77.5 (10.8)	77.2 (9.7)	75.6 (9.0)	62.7 (11.0)	62.6 (9.8)	62.1 (8.5)
BMI (kg/m ²)	24.9 (3.4)	24.7 (3.1)	24.3 (2.6)	23.7 (2.3)	23.3 (3.9)	23.2 (3.4)	22.6 (2.9)
Systolic blood pressure (mmHg)	130 (15)	130 (14)	129 (13)	129 (13)	120 (15)	120 (14)	118 (13)
Diastolic blood pressure (mmHg)	77 (11)	77 (11)	74 (11)	69 (10)	73 (11)	72 (10)	70 (10)
RHR (b.p.m.)	75 (13)	73 (13)	68 (12)	63 (12)	78 (12)	77 (13)	72 (12)
Education (years) ^b	11.1 (4.0)	11.2 (3.9)	12.1 (3.9)	12.6 (3.4)	10.8 (3.6)	11.2 (3.7)	12.2 (3.8)

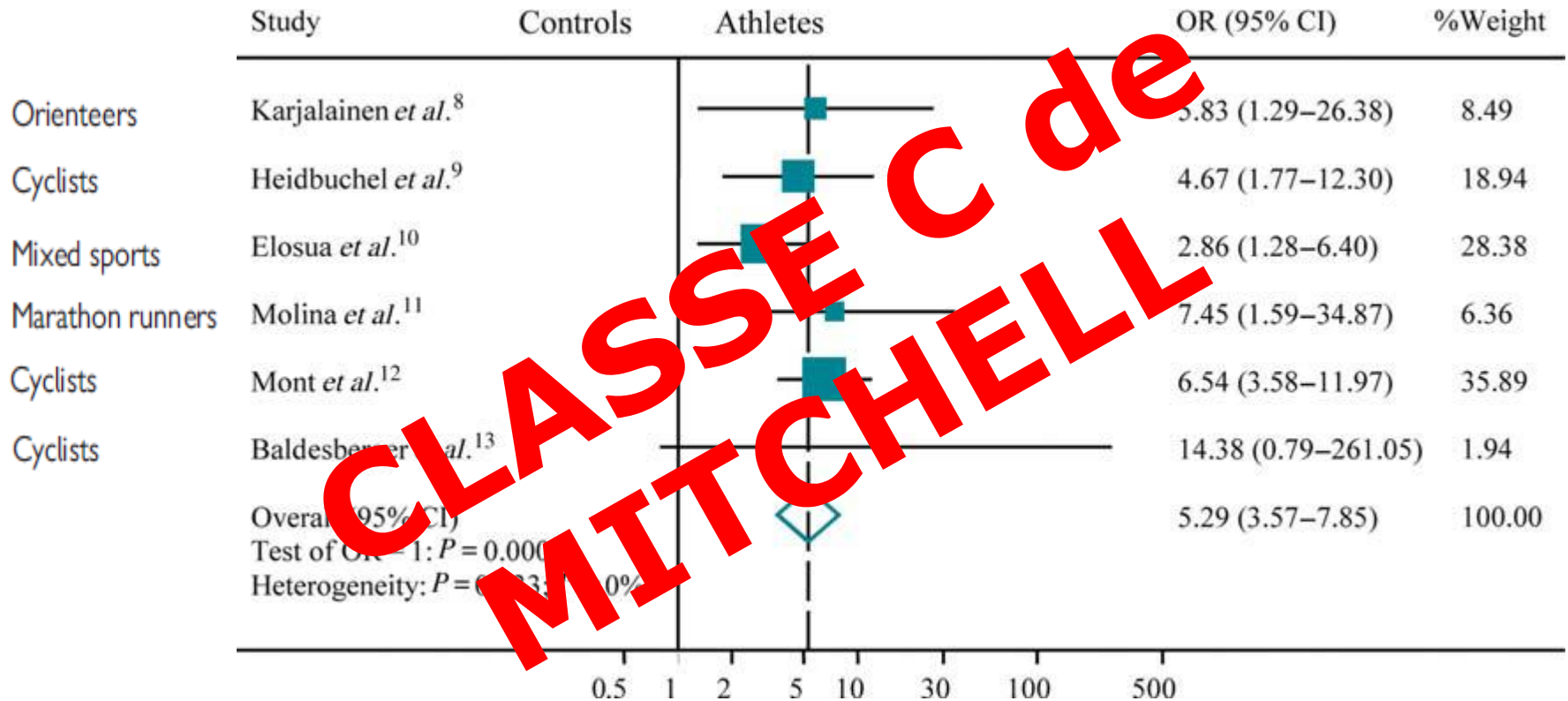
ET POUR LA FIBRILLATION ATRIALE ???



Physical activity level	N	AF events	All AF cases
Low	4791	188 (3.9%)	1.00 (ref.)
Moderate	11 818	422 (3.6%)	0.81 (0.68–0.97)
High	3303	127 (3.8%)	0.97 (0.77–1.22)
Vigorous	572	13 (2.3%)	1.37 (0.77–2.43)



PROBLEMATIQUE DE L'ATHLETE ENDURANT



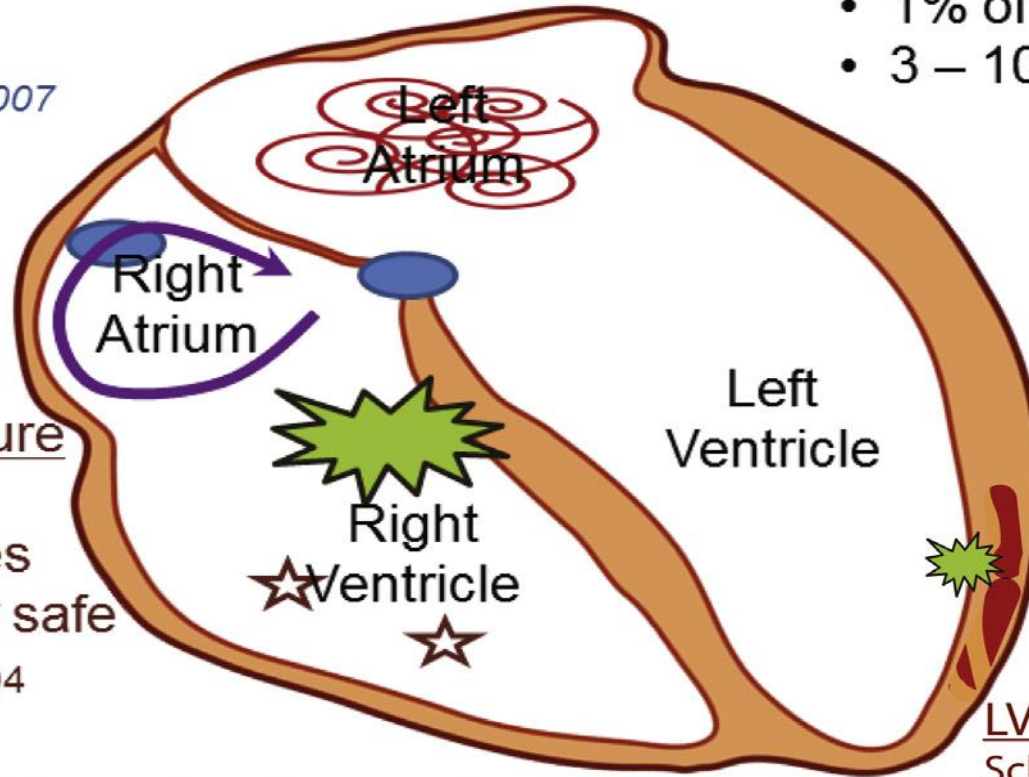
Atrial flutter

- 31% vs. 8% are endurance athletes

*Claessen, La Gerche, Heidbuchel *Heart* 2011

Atrial fibrillation

- 1% of community
- 3 – 10% athletes



Heart block

PPM in 3% athletes
vs. 0% non-athletes

*Baldesberger et al *EHJ* 2007

*Stein et al *JACC* 2002

Ventricular premature beats (ectopics)

Common in athletes

Usually completely safe

*Biffi *JACC* 2004

Ventricular tachycardia

Rare. Potentially serious

Most often of RV origin

??? More common in athletes *Heidbuchel, Hoogsteen et al. *EHJ* 2003

LV Scar / arrhythmias
Schnell et al. *BJSM* 2015

QUELS SONT LES MECANISMES IMPLIQUES

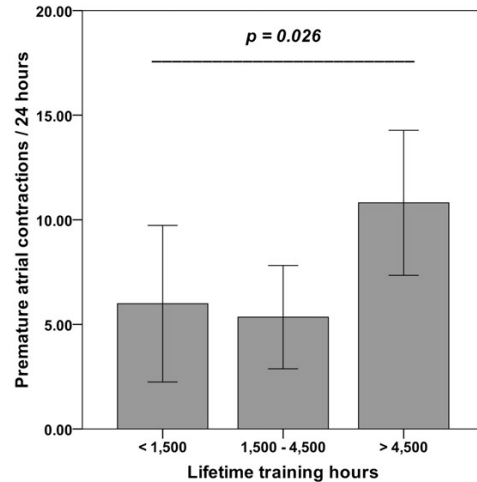
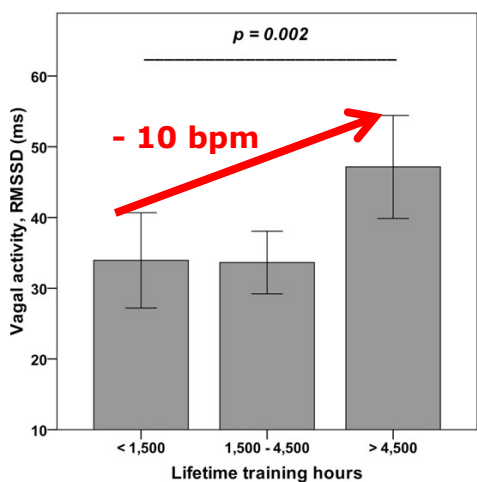
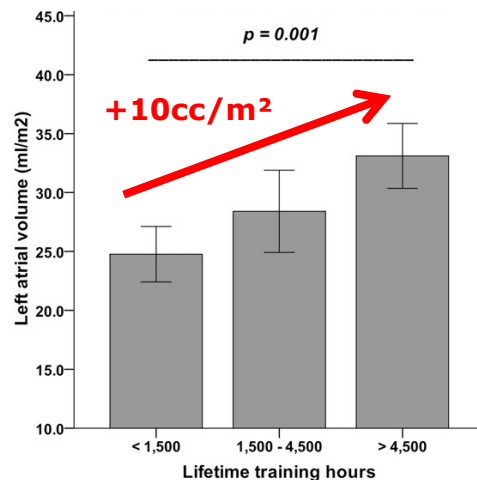
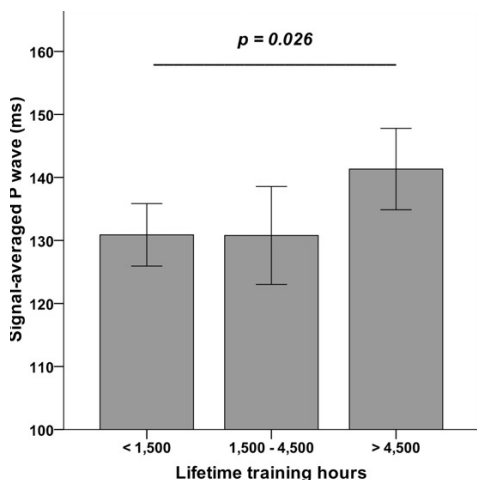
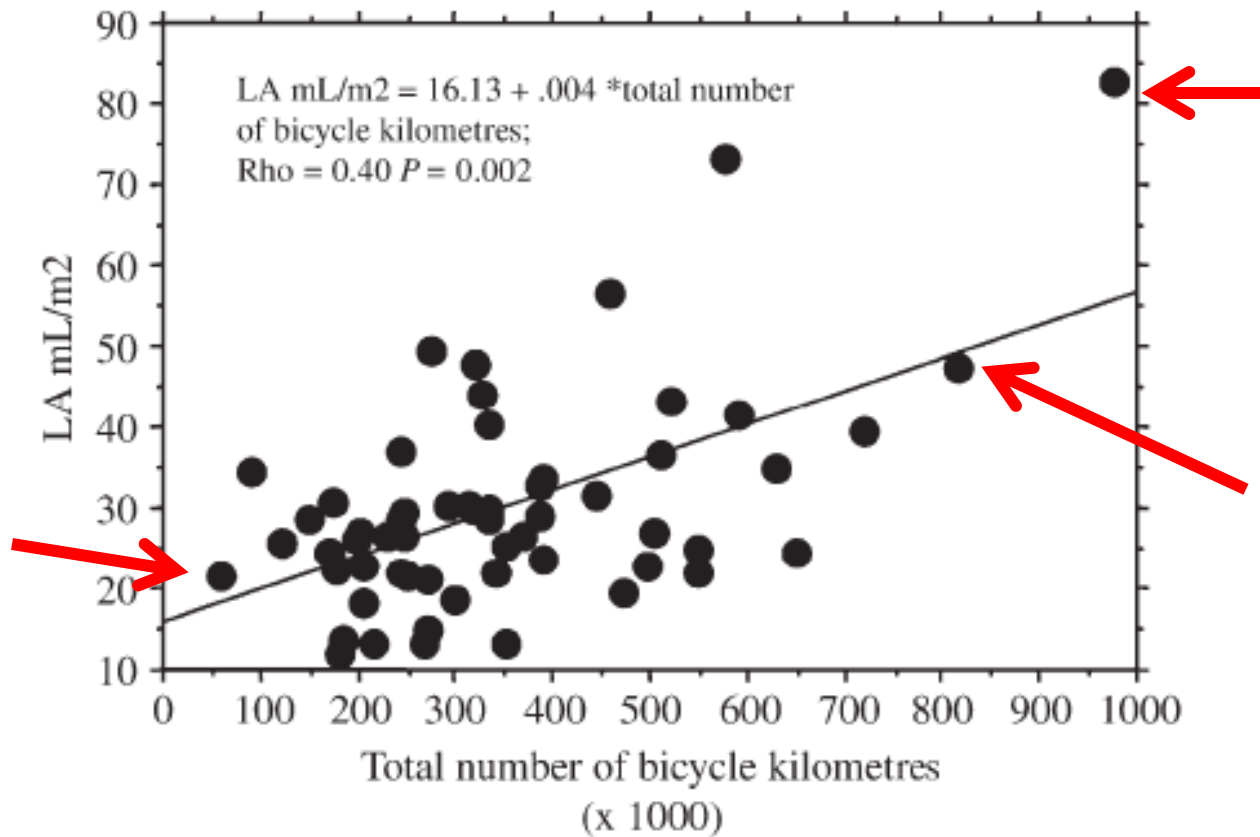
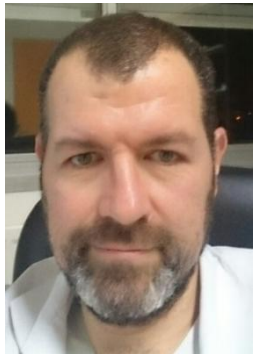
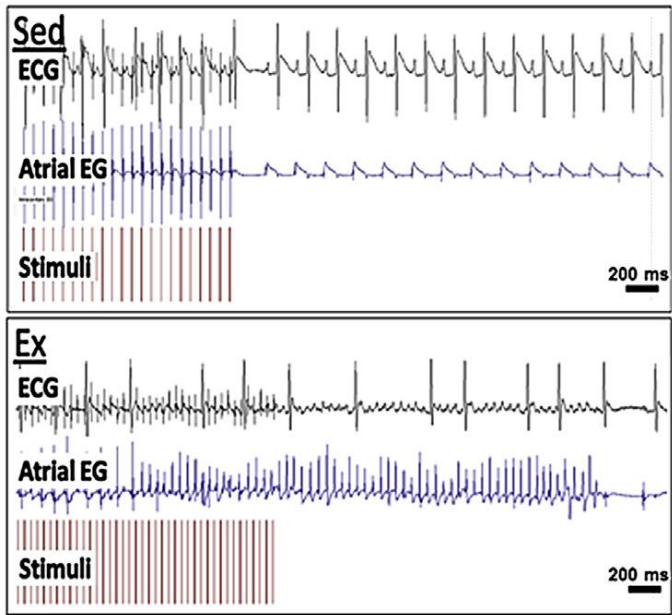


Table 1 Clinical baseline characteristics of the former professional cyclists and controls

	Athletes N = 62	Controls N = 62	P value
Age, years	66 ± 7	66 ± 6.0	0.73
Body mass index, kg/m ² BSA	25.6 ± 2.8	25.9 ± 2.4	0.41
Current hours of endurance training	4.6 ± 4.4	3.3 ± 1.7	0.34
> 4 h of endurance training	29 (47)	27 (44)	0.72
Sinus rhythm	57 (92)	62 (100)	0.057
Heart rate at rest (beats/min)	58 ± 10	63 ± 9	0.008
Left atrial volume index, mL/m ² BSA	30 ± 13	24 ± 8	0.002
Left atrial volume index, mL/m ² BSA (in SR)	29 ± 11 (57 pt)	24 ± 10	0.02
Right atrial size at endsystole:			
- Length, mm	53 ± 7	49 ± 5	0.001
- Diameter, mm	42 ± 7	37 ± 5	0.0002

QUELS SONT LES MECANISMES IMPLIQUES

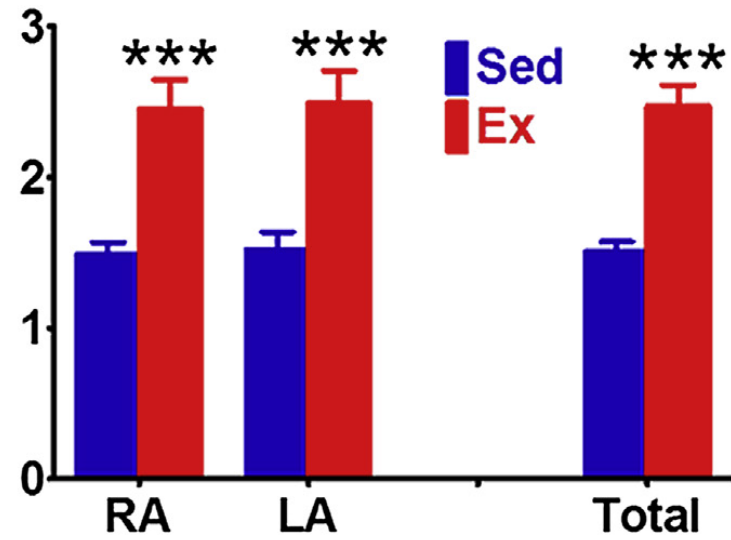
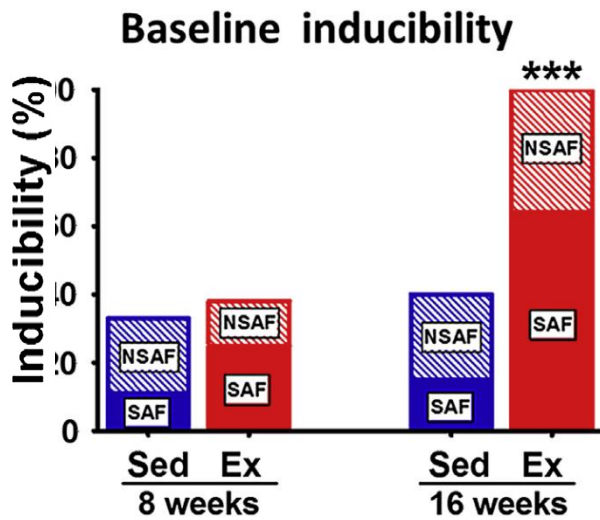
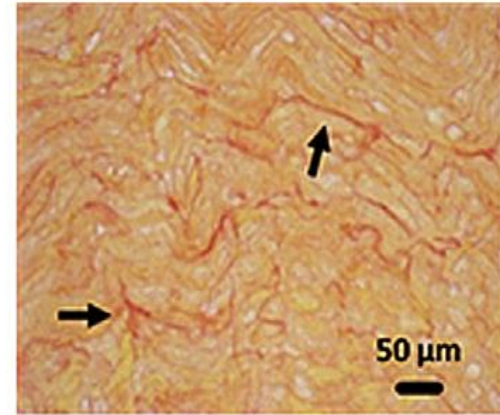
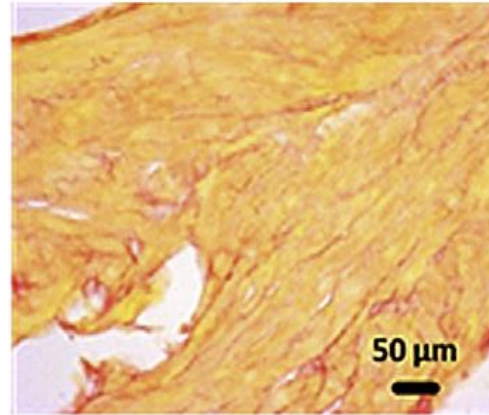


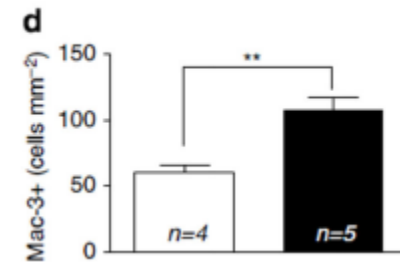
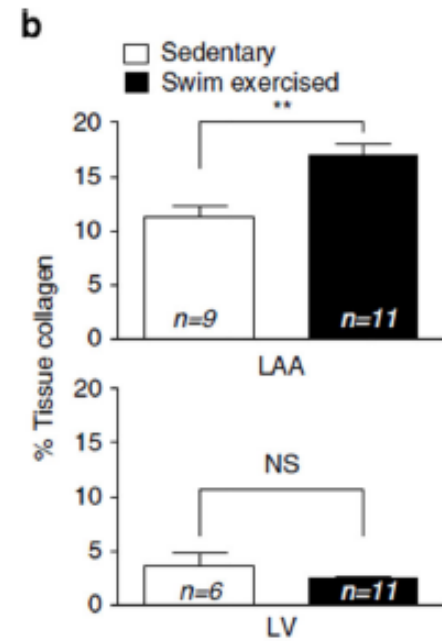
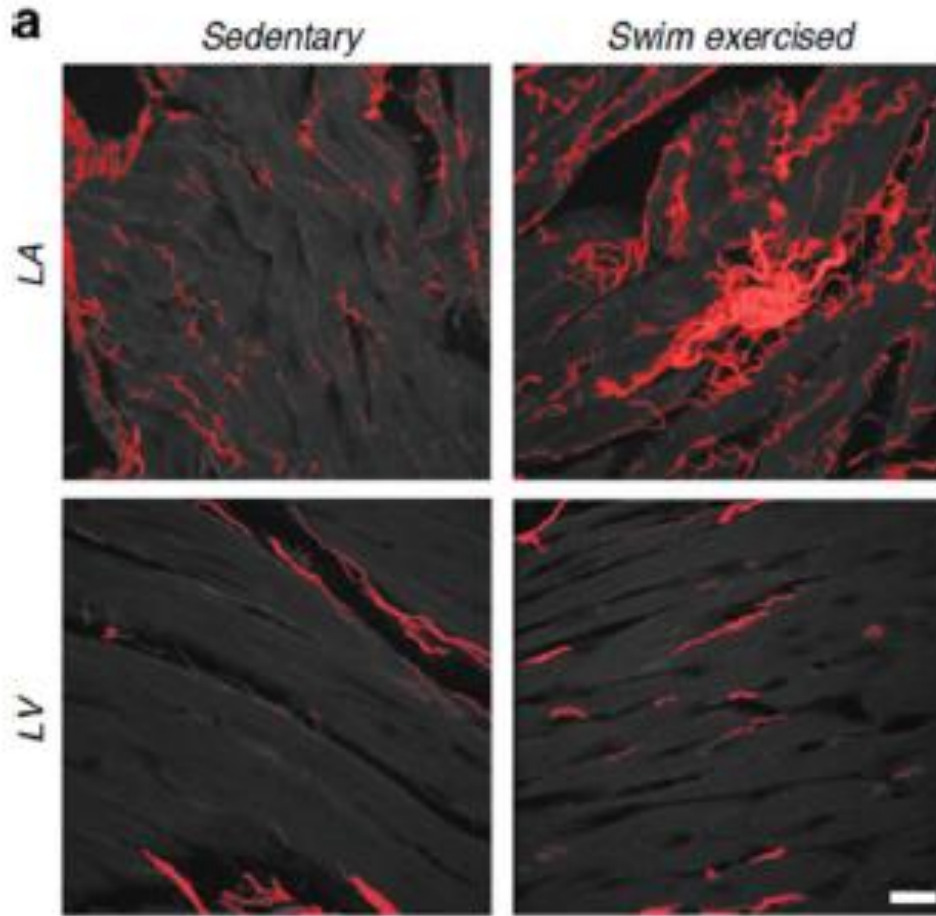


LA

Sed

Ex

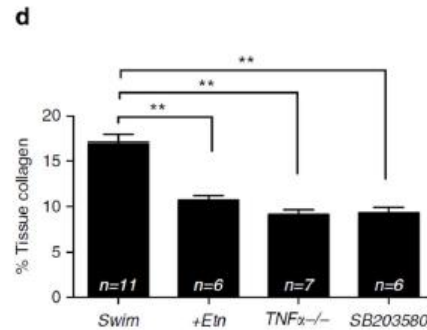
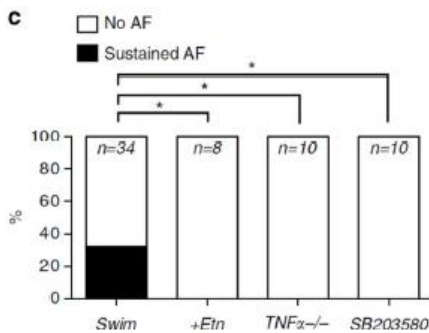
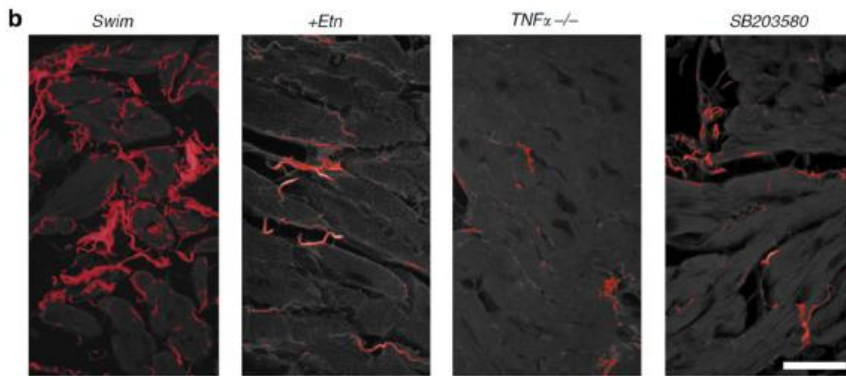
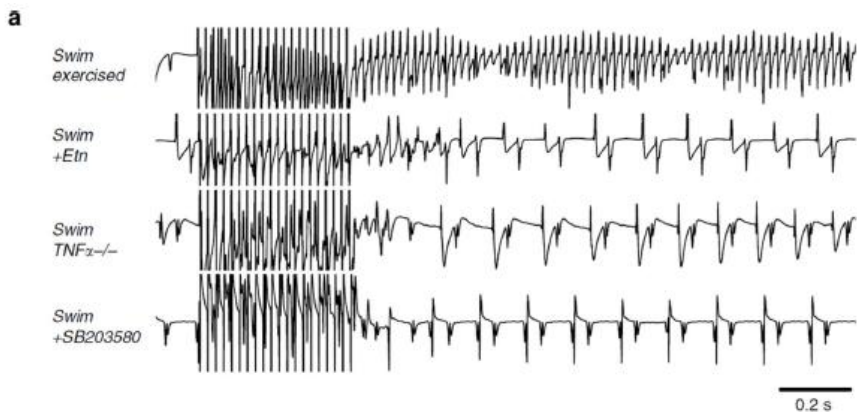




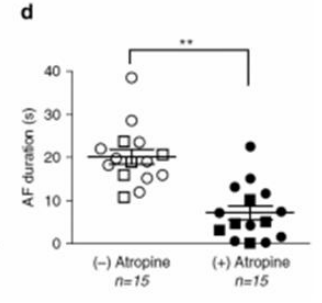
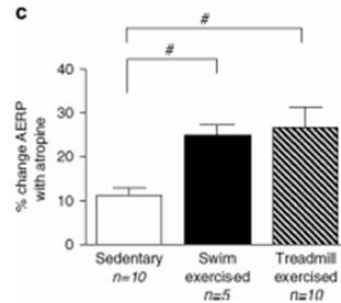
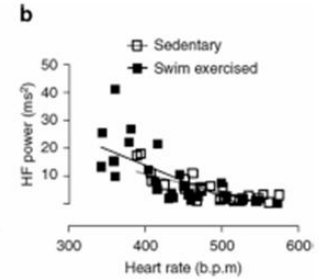
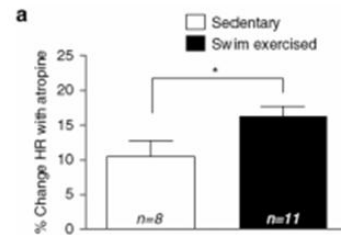
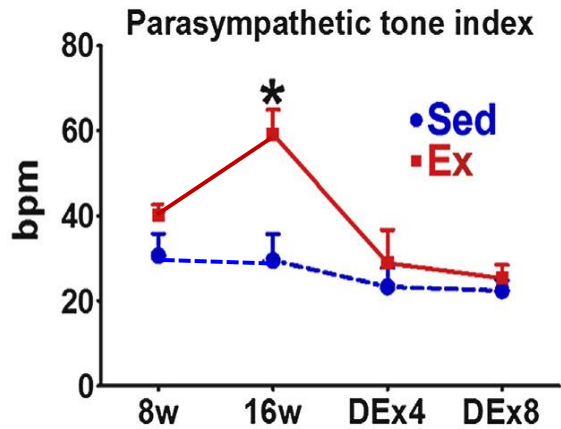
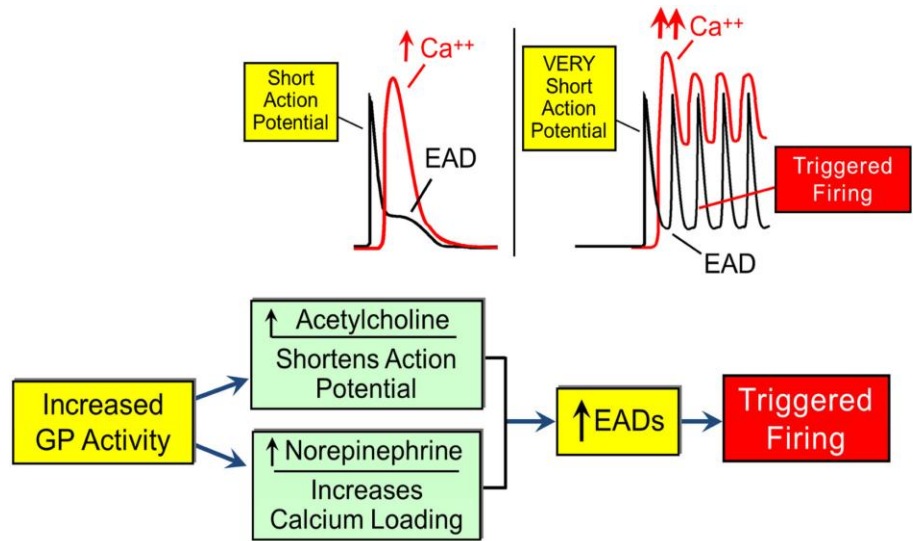
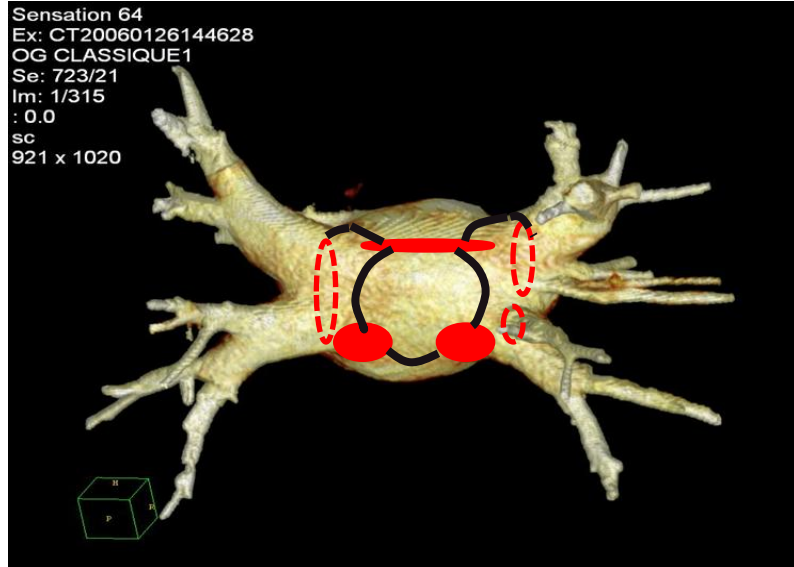
INDUCTION FA

FIBROSE SELON BLOCAGE TNF α

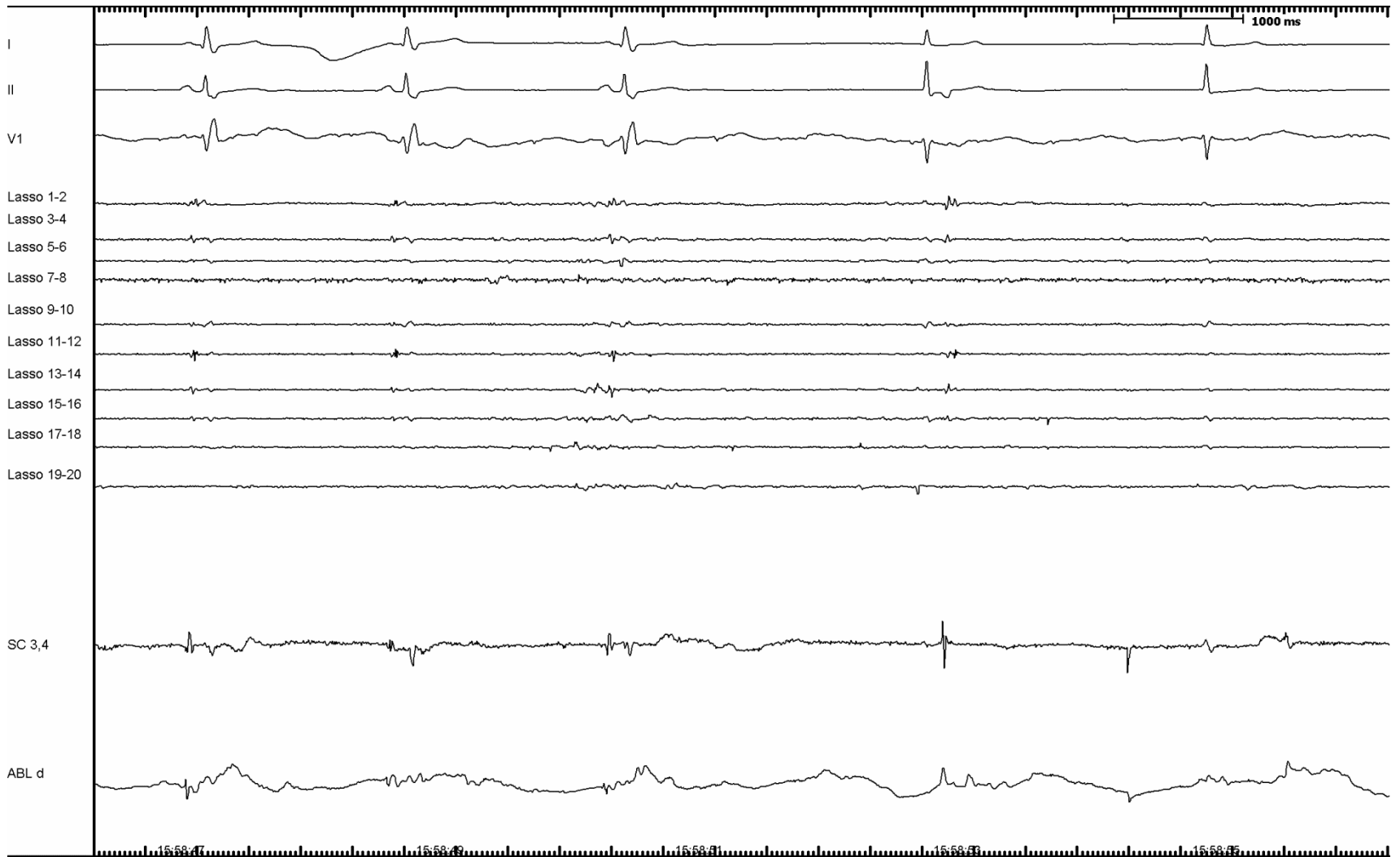
FA SELON BLOCAGE TNF α



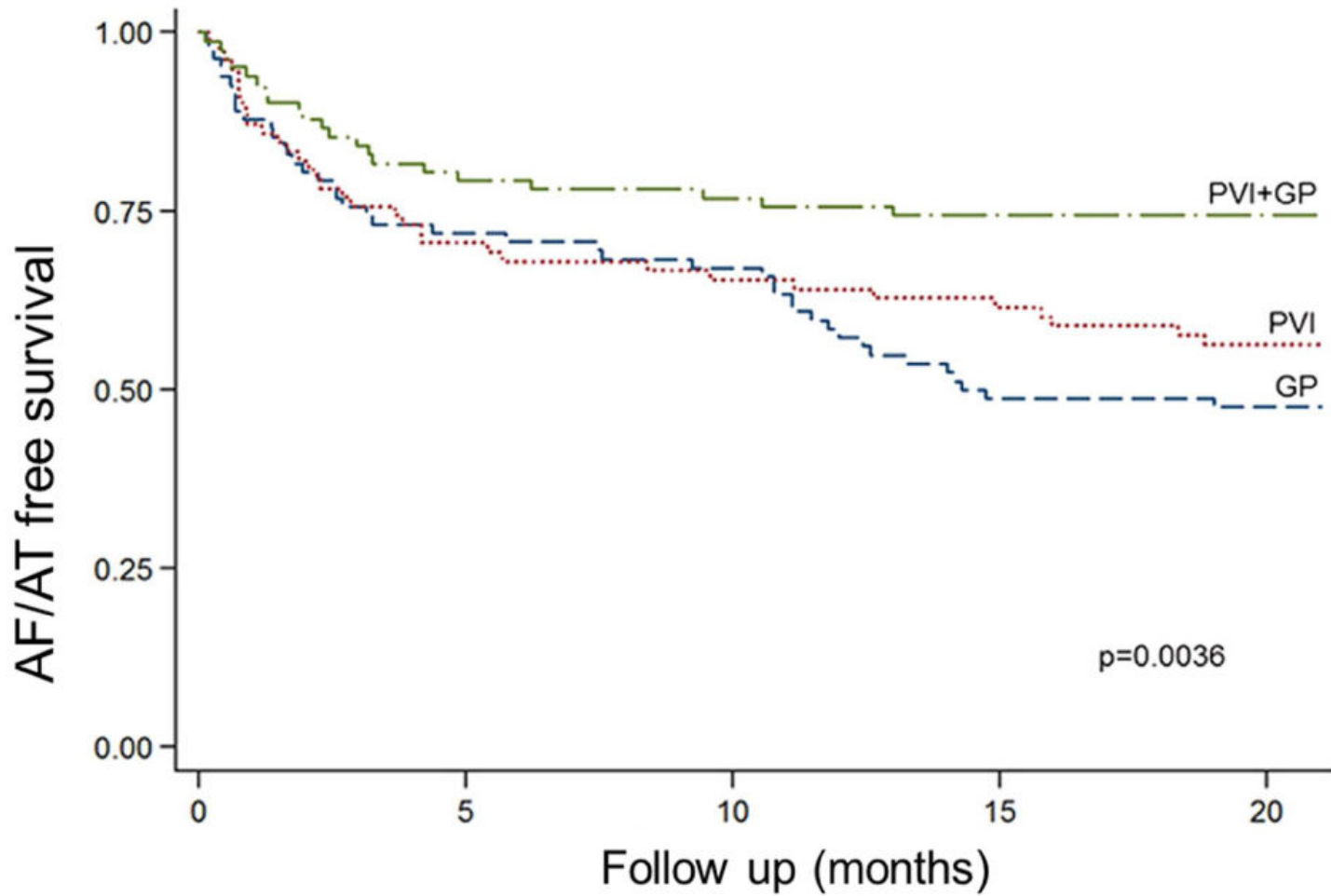
LE SNA

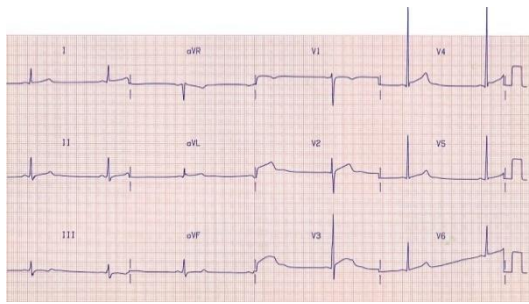


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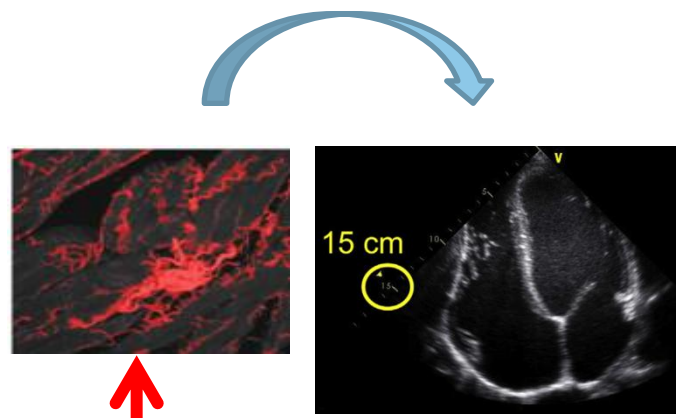


LE SNA





Bradycardie



Diminution des périodes réfractaires myocarde hyperexcitable

HYPERTONIE PS

MEDIATION INFLAMMATION PAR TNF α et IL

Destructions myocardiques répétées

Acc des processus fct° cell

DESTRUCTION CELLULAIRE ??

FA

NIVEAU DE PREUVE

