Printemps 2019 de la médecine d'urgence
9ème édition - Lyon, mardi 14 mai 2019

PARTICULARITES ET ACTUALITE DE L'INFARCTUS AIGU DU MYOCARDE CHEZ LA FEMME

Stéphane Manzo-Silberman
Service de Cardiologie,
Hôpital Lariboisière, Paris
Université Paris VII, INSERM U942

Epidémiologie

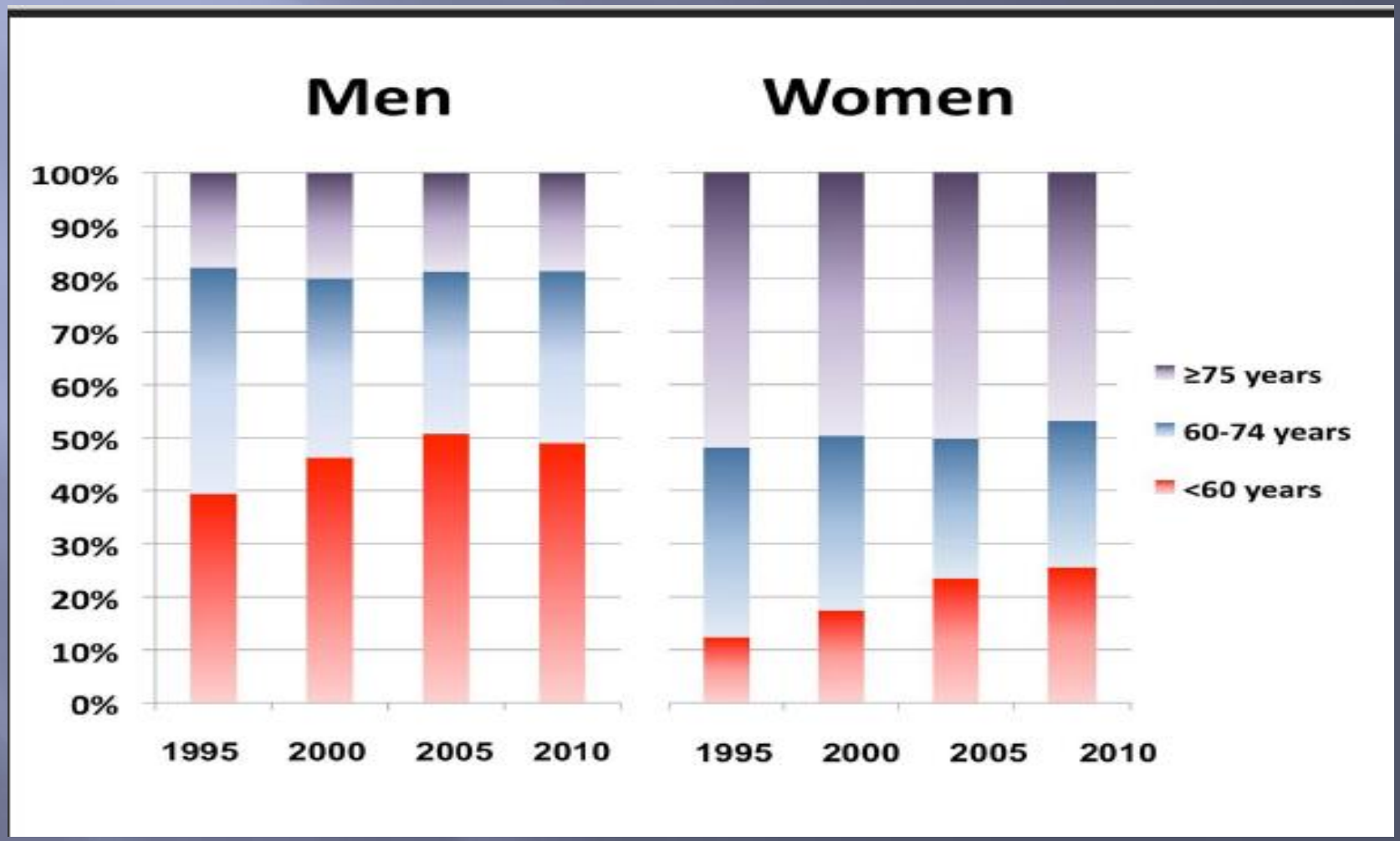
- 1ère cause de mortalité chez la femme = maladies cardio-vasculaires

- En France, les maladies cardiovasculaires sont responsables de 51,4 décès pour 100 000 femmes de 35 à 74 ans, dont 11.9 décès liés à la maladie coronaire *Go et al. Circ 2013*

- « Sudden cardiac death » chez la femme ménopausée 2.4/10 000/an, 50% coronaropathie non diagnostiquée *Bertoia et al. JACC 2012*

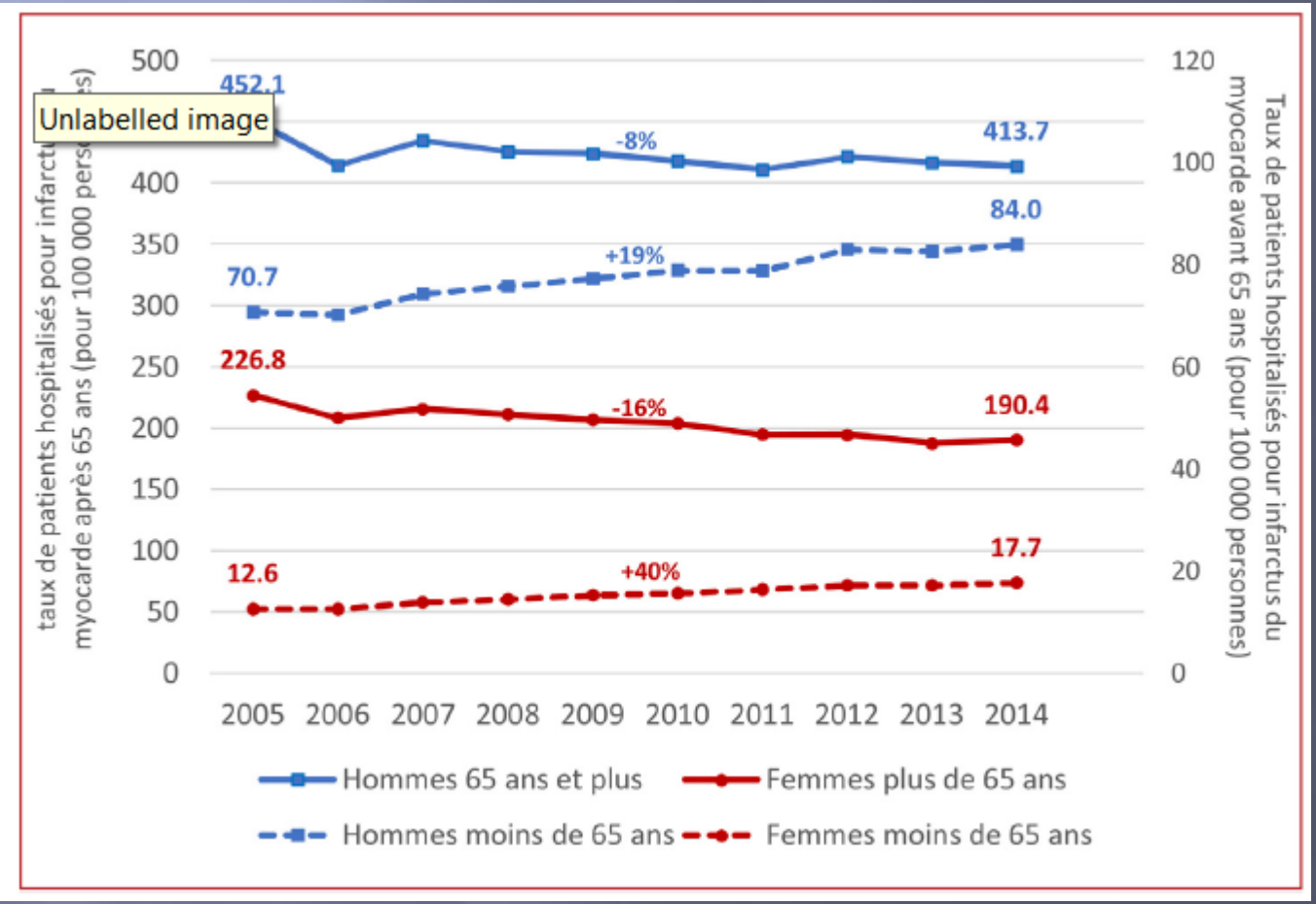
- **Maladies cardio-vasculaires : mortalité 8 fois supérieure à celle du cancer du sein**

FAST MI



Danchin N, Munich, ESC 2012

Infarctus du myocarde : évolutions en France, 2005-2014



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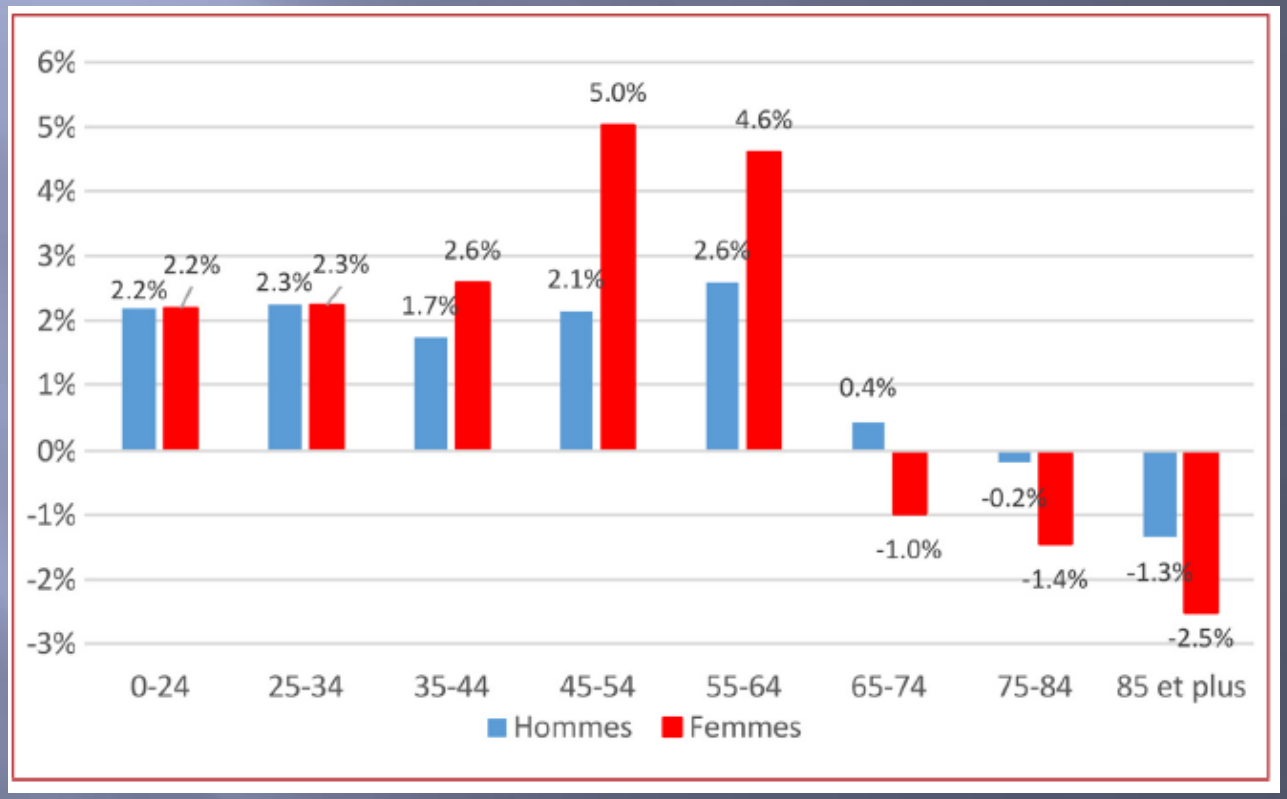


Facteurs de risque: classiques

- Plus d'**hypercholestérolémie** > 50 ans
- Plus **HTA**, moins traitement efficace 29% vs 41% *(Benjamin E et al. Circ 2018)*
- **Diabète** pronostic plus sombre, risque CV 19 vs 10% *(Yusuf S et al. Lancet 2004; Peters SA et al. Diabetologia 2014)*
- **Tabac** : Risque CV 25% supérieur chez la femme
- **Sédentarité**: ¾ femmes aux USA inférieur aux reco, ¼ aucune activité physique

Facteurs de risque/comorbidités : STEMI

Table 1
Patient characteristics.

	Men (N = 12,712)	Women (N = 4021)	Total (N = 16,733)	p Value
Registry n (%)				
FAST 2010	978 (76.4)	302 (23.6)	1280	
F comt	1344 (70.1)	573 (29.9)	1917	
ORBI	3122 (77.4)	911 (22.6)	4033	
Resca31+	369 (75.8)	118 (24.2)	487	0.48
RESCUe	3003 (76.2)	937 (23.8)	3940	
RESURCOR	2983 (78.3)	828 (21.7)	3811	
RICO	913 (72.2)	352 (27.8)	1265	
Clinical characteristics				
Age (mean ± SD)	60.6 ± 13.2	70.6 ± 14.3	63 ± 14.2	<0.001
Age < 50 years n (%)	2785 (86.8)	424 (13.2)	3209	
Age > 80 years n (%)	1152 (46.5)	1327 (53.5)	2479	
Type-2 diabetes[a] n (%) N = 12,764	1476 (15.4)	623 (19.6)	2099 (16.4)	<0.001
HBP[a] n (%) N = 12,511	3651 (38.8)	1826 (58.7)	5477 (43.8)	<0.001
Current smoker[a] n (%) N = 12,848	4475 (46.2)	820 (25.9)	5295 (41.2)	<0.001
Previous CAD[a] n (%) N = 16,366	2466 (19.9)	662 (16.8)	3128 (19.1)	<0.001
Previous CABG[a] n (%) N = 12,768	350 (3.6)	87 (2.8)	437 (3.4)	0.03

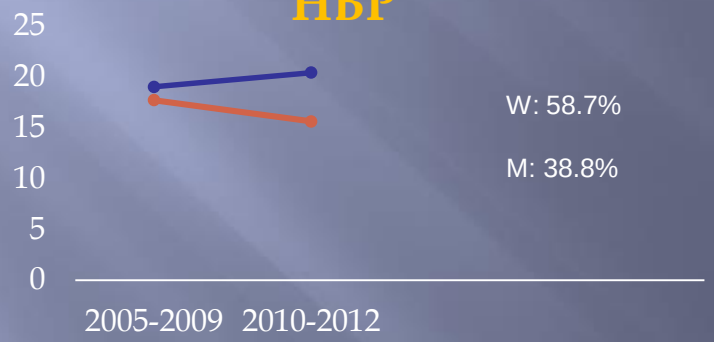
Manzo-Silberman et al Int J Cardiol 2018

Young women: characteristics

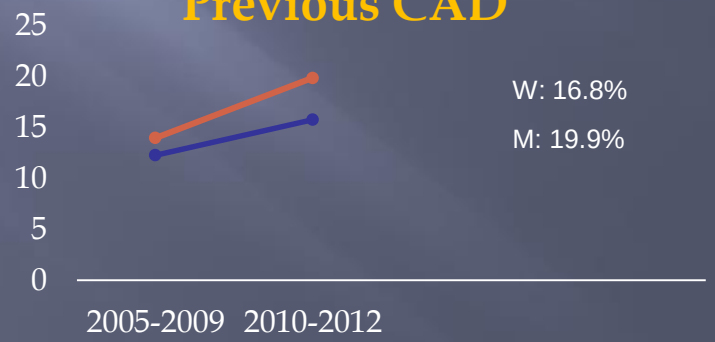
DM

Current smoker

HBP



Previous CAD



Personnal data

Facteurs de risque: nouveaux

- hsCRP (Ridker NEJM 2002)
- Resistance a l'insuline
- Obésité
  - Femmes obèses Risque coronaire 64% vs 46% hommes obèses
- Psychosocial, stress, précarité
- associé au décès CV 45% femmes vs 28.8% hommes

(Yusuf S et al. Lancet 2004)

Facteurs de risque: spécifiques

Table. Female Sex and Cardiovascular Disease Risk Factors

Female-Specific CVD Risk Factors	Female-Predominant CVD Risk Factors
Adverse pregnancy outcomes	Autoimmune inflammatory diseases
Pregnancy-related hypertension	Rheumatoid arthritis
Gestational hypertension	Systemic lupus erythematosus
Preeclampsia	Scleroderma
Eclampsia	
Gestational diabetes mellitus	
Preterm delivery	
Low birth weight for gestational age	
Polycystic ovarian syndrome	Breast cancer
Functional hypothalamic amenorrhea	
Reproductive hormones	
Oral contraceptives	
Hormone replacement	

CVD indicates cardiovascular disease.
Modified from Gulati.[18]

Brown et al, Circ 2018

Physiopathologie et formes angiographiques

OCTAVIA

	Overall (N = 140)	Men (n = 70)	Women (n = 70)	p Value
Lesions treated, n	1.2 ± 0.5	1.2 ± 0.5	1.1 ± 0.5	0.72
Infarct related artery				0.40
Left anterior descending	62/140 (44.3)	27/70 (38.6)	35/70 (50.0)	
Left circumflex	11/140 (7.9)	6/70 (8.6)	5/70 (7.1)	
Right coronary	67/140 (47.9)	37/70 (52.9)	30/70 (42.9)	
Multivessel disease	62/140 (44.3)	34/70 (48.6)	28/70 (40.0)	0.47
Pre-procedural thrombus	120/140 (85.7)	62/70 (88.6)	58/70 (82.9)	0.33
Use of aspiration catheter	118/140 (84.3)	61/70 (87.1)	57/70 (81.4)	0.35
Use of GP IIb/IIIa inhibitor	51/140 (36.4)	31/70 (44.3)	20/70 (28.6)	0.05
Radial access	82/140 (58.6)	47/70 (67.1)	35/70 (50.0)	0.04
Stents implanted per patient, n	1.4 ± 0.6	1.3 ± 0.5	1.4 ± 0.7	0.15
Total stent length per patient, mm	23.0 (18.8-33.0)	23.0 (21.8-33.0)	23.0 (18.0-35.3)	0.38
Direct stenting	88/140 (62.9)	44/70 (62.9)	44/70 (62.9)	1.00
Maximum pressure per lesion, atm	18 (16-20)	18 (16-20)	18 (16-20)	0.91
Maximum balloon diameter, mm	3.25 (3.0-3.5)	3.5 (3.0-4.0)	3.0 (3.0-3.5)	0.008
Baseline TIMI flow grade				0.45
0/1	83/140 (59.3)	43/70 (61.5)	40/70 (57.2)	
2	44/140 (31.4)	19/70 (27.1)	25/70 (35.7)	
3	13/140 (9.3)	8/70 (11.4)	5/70 (7.1)	
Final TIMI flow grade				0.47
0/1	0/140 (0)	0/70 (0)	0/70 (0)	
2	8/140 (5.7)	5/70 (7.1)	3/70 (4.3)	
3	132/140 (94.3)	65/70 (92.9)	67/70 (95.7)	
Procedural success	128/140 (91.4)	63/70 (90.0)	65/70 (92.9)	0.76

Guagliumi G, JACC CV Interv 2014

OCTAVIA

Culprit Lesion Assessment	Overall (N = 140)	Men (n = 70)	Women (n = 70)	p Value
Residual thrombus	120/128 (93.8)	62/64 (96.9)	58/64 (90.6)	0.27
Rupture site assessment				
Minimum cap thickness, μm	47 ± 12	48 ± 15	46 ± 8	0.59
Mean cap thickness, μm	64 ± 15	66 ± 17	61 ± 12	0.28
Length of plaque rupture, mm	1.8 (1.2-3.0)	1.8 (1.2-3.0)	1.8 (1.2-3.0)	0.80
Plaque constituents, %				
Fibrocalcific	4.6 ± 12.7	4.5 ± 13.7	4.6 ± 11.9	0.74
Fibrous	14.8 ± 17.0	13.0 ± 16.4	16.8 ± 17.6	0.32
Lipid-rich	74.5 ± 20.0	79.2 ± 24.0	69.8 ± 23.5	0.09
Normal	6.0 ± 12.0	3.3 ± 8.8	8.8 ± 14.2	0.10
Nonrupture/erosion site assessment				
Plaque constituents, %				
Fibrocalcific	10.2 ± 20.9	14.1 ± 25.8	6.3 ± 14.4	0.40
Fibrous	25.0 ± 31.8	14.1 ± 27.3	35.9 ± 32.9	0.03
Lipid-rich	56.3 ± 36.5	60.9 ± 38.7	51.6 ± 34.7	0.36
Normal	8.6 ± 21.6	10.9 ± 27.3	6.3 ± 14.4	0.96
Post-Stent Implantation	**(N = 139)**	**(n = 70)**	**(n = 69)**	
Mean reference vessel area, mm^2	6.9 (5.5-9.7)	8.5 (6.2-10.7)	6.3 (5.1-8.3)	<0.001
Minimum stent area, mm^2	6.3 ± 2.2	7.1 ± 2.3	5.5 ± 1.9	<0.001
Minimum lumen area, mm^2	5.8 (4.5-7.6)	6.8 (5.2-8.6)	5.2 (4.4-6.3)	<0.001
Minimum lumen area stenosis, %	13.2 ± 19.9	11.1 ± 20.5	15.3 ± 19.2	0.22
Stent expansion index, %*	86 (70-96)	87 (69-100)	85 (71-96)	0.53
Incomplete strut apposition, %†	5.1 (1.5-10.6)	5.1 (1.5-10.8)	5.0 (1.7-10.5)	1.00
Follow-Up	**(N = 117)**	**(n = 58)**	**(n = 59)**	
Mean reference vessel area, mm^2	6.6 (5.1-8.9)	7.4 (5.7-10.5)	5.9 (4.3-7.8)	0.001
Minimum lumen area, mm^2	5.18 (3.7-6.9)	5.9 (4.3-7.4)	5.0 (3.6-5.8)	0.01
Percentage net volume obstruction, %	10.3 (6.0-15.8)	10.6 (6.7-16.1)	10.3 (5.9-13.7)	0.76
Incomplete strut apposition, %†	0.6 (0.0-4.8)	0.9 (0.0-6.4)	0.3 (0.0-3.5)	0.13

Guagliumi G, JACC CV Interv 2014

Sex differences in long-term mortality among acute myocardial infarction patients: Results from the ISAR-RISK and ART studies

Romy Ubrich[1], Petra Barthel[1], Bernhard Haller[2], Katerina Hnatkova[3], Katharina Maria Huster[1], Alexander Steger[1], Alexander Müller[1], Marek Malik[3,4‡], Georg Schmidt[1,4‡]*

Table 1. Patient characteristics in the complete cohort (n = 3,840) at baseline hospitalization.

	Females n = 994	Males n = 2846	P
Clinical data			
Age (years), mean (SD)	68.7 (11.9)	61.0 (12.2)	<0.001
Hypertension, n (%)	745 (74.9)	1853 (65.1)	<0.001
Diabetes mellitus, n (%)	255 (25.7)	549 (19.3)	<0.001
Smokers, n (%)	272 (27.4)	1542 (54.2)	<0.001
Creatinine(mg/dl), mean (SD)	1.2 (0.5)	1.3 (0.2)	<0.001
Previous AMI, n (%)	102 (10.3)	386 (13.6)	0.008
Non-SR, n (%)	79 (7.9)	166 (5.8)	0.023
CK max (U/l), mean (SD)	1526 (1583)	2017 (2385)	<0.001
LVEF (%),mean (SD)	52.6 (13.4)	52.0 (13.0)	0.177
Coronary angiography, n (%)	986 (99.2)	2836 (99.6)	0.125
Non-obstructive CAD, n (%)	52 (5.2)	69 (2.4)	<0.001
One-vessel CAD, n (%)	357 (35.9)	924 (32.5)	0.052
Two-vessel CAD, n (%)	258 (26.0)	790 (27.8)	0.291
Three-vessel CAD, n (%)	327 (32.9)	1063 (37.4)	0.013
Therapy			
PCI, n (%)	852 (85.7)	2589 (91.0)	<0.001
CABG, n (%)	28 (2.8)	84 (3.0)	0.914
Thrombolysis n (%)	24 (2.4)	60 (2.1)	0.658
Conservative, n (%)	90 (9.1)	113 (4.0)	<0.001
ASS, n (%)	964 (97.0)	2759 (96.9)	1.000
Betablockers, n (%)	921 (92.7)	2609 (91.7)	0.362
ACE inhibitors, n (%)	880 (88.5)	2550 (89.6)	0.379
Statins, n (%)	829 (83.4)	2414 (81.0)	0.311
Diuretics, n (%)	472 (47.5)	1195 (42.0)	0.003
Mortality			
5-year all-cause, n (%)	175 (17.6)	337 (11.8)	<0.0001

Ubrich R et al. Plos One 2017

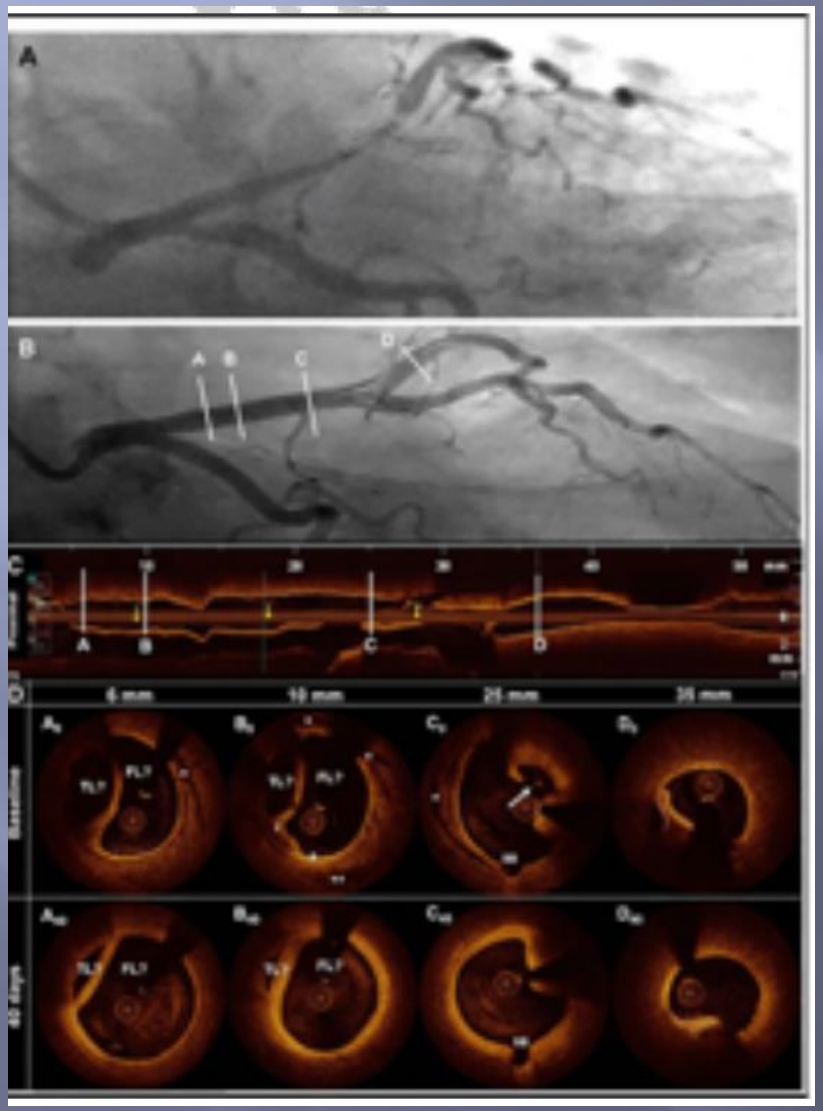
Physiopathologie selon Fdr

Multivariate association between risk factors and morphologic characteristics of culprit plaque in 51 women compared with 47 noncoronary deaths (trauma and cardiac noncoronary).

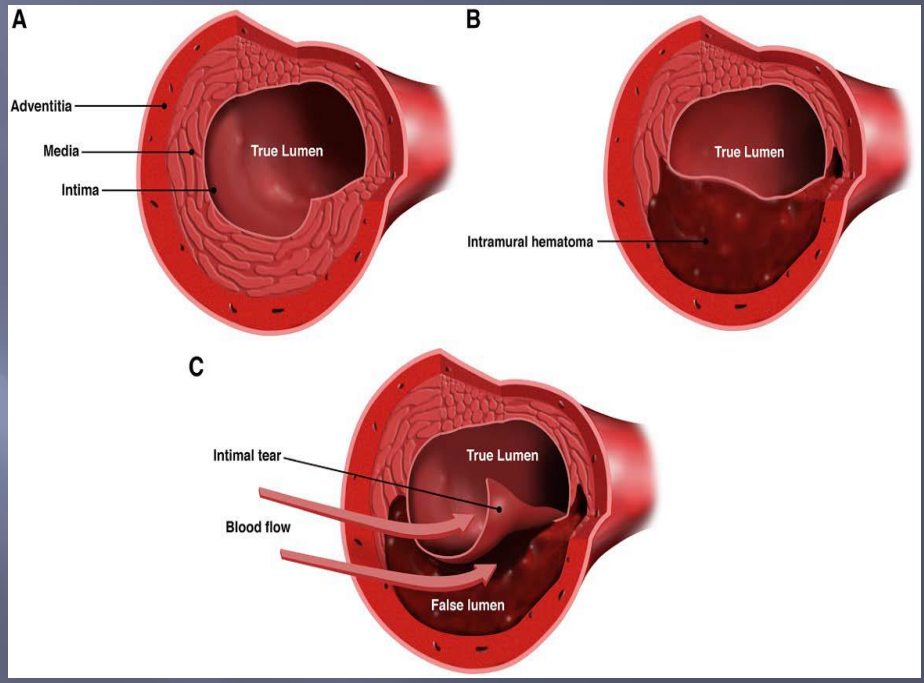
Risk factor	Plaque morphology	P value (univariate)	Multivariate		
			z score	P value	Odds ratio
Total cholesterol (mg/dL)	Rupture	<.0001	3.0	0.002	31
Cigarette smoking	Erosion	0.003	2.5	0.01	16
Glycosylated hemoglobin >8%	Stable plaque	0.001	2.8	0.006	7.1
Hypertension	Stable plaque	0.006	2.3	0.02	4.0

Yahagi K et al. Atherosclerosis 2015

SCAD



Chieffo et al. Eurointervention, 2018



Haye s SN et al. Circulation, 2018

SCAD

Table 3. Prevalence of spontaneous coronary artery dissection among acute coronary syndrome cases at our institution during the 2012-2014 period.

	ACS	SCAD	Ratio (%) (SCAD/ACS)	NSNDS
All comers	3,224	36	1.1	90
Women	969	36	3.7	27
Women <60 years	234	27	11.5	9
Women <50 years	111	17	15.3	7
Women <60 ≤2 CRF	132	26	19.7	5
Women <60 non-smoker	64	18	28.2	4
Women <60 ≤1 CRF	56	20	35.7	3

ACS: acute coronary syndrome; CRF: cardiovascular risk factors; NSNDS: number of patients admitted for acute coronary syndrome needed to diagnose one case of spontaneous coronary artery dissection; SCAD: spontaneous coronary artery dissection

Motreff P, EuroIntervention 2017;12:e2236-e2243

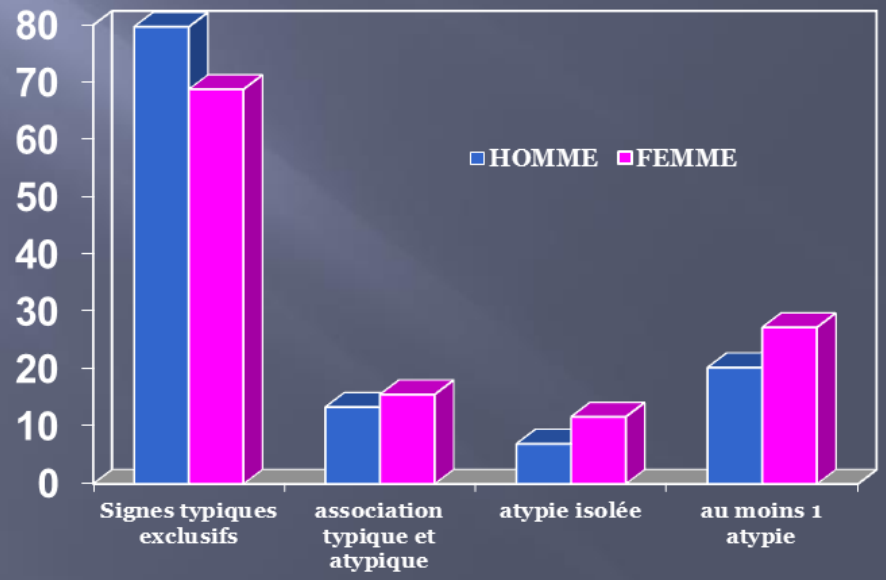
Présentations cliniques: « formes atypiques » ?

CASSANDRE

Symptômes:

- **70% douleur rétrosternale,**
- plus souvent au repos: 86.4% vs 78.4% (NS)
- 65% en étau, moins souvent en barre (NS)
- Plus souvent variable à l'inspiration 7.5% vs 2.3% !
- Plus souvent avec irradiation dorsale 23.4% vs 9.3% !
- Irradiations mâchoire (20%) et bras gauche (39% vs 46.5)
- Intensité semblable
- Plus souvent associée à
  - Sensation d'asthénie 25.3% vs 11.9%
  - Dyspnée 35.8% vs 24.9% (NS)
  - Palpitations 10.5% vs 3%

Caractéristiques des symptômes: typicité des caractéristiques de la douleur



AHA Scientific Statement

Acute Myocardial Infarction in Women

A Scientific Statement From the American Heart Association

Typical Symptoms	Atypical Symptoms
Chest pain/discomfort (pressure, tightness, squeezing)	Chest pain: sharp, pleuritic, burning, aching, soreness, reproducible
Additional symptoms with chest pain Radiation of pain to jaw, neck, shoulders, arm, back, epigastrium Associated symptoms: dyspnea, nausea, vomiting, lightheadedness, diaphoresis	Other symptoms excluding chest pain Unusual fatigue Unusual shortness of breath Upper back/chest pain Neck, jaw, arm, shoulder, back, epigastric pain Flu-like symptoms Dizziness Generalized scared/anxiety feeling Generalized weakness Indigestion Palpitations

Circulation 2016

Sex Differences in the Presentation and Perception of Symptoms Among Young Patients With Myocardial Infarction

Evidence from the VIRGO Study (Variation in Recovery: Role of Gender on Outcomes of Young AMI Patients)

	Overall			Among Patients With STEMI			Among Patients With NSTEMI			Among Patients With No Chest Pain		
	Women (n=2009)	Men (n=976)	*P**	Women (n=922)	Men (n=563)	*P**	Women (n=1087)	Men (n=413)	*P**	Women (n=261)	Men (n=102)	*P**
Individual symptoms, %												
Chest pain, pressure, tightness, or discomfort	87.0	89.5	0.185	87.3	91.5	0.092	86.8	86.9	1			
Dizziness	28.0	26.3	0.774	29.5	28.1	1	26.7	23.8	0.999	21.9	22.8	1
Epigastric: indigestion, nausea, or stomach pain, pressure, burning, or discomfort	61.5	50.2	<0.001	67.1	53.1	<0.001	56.8	46.2	0.003	55.2	51.0	1
Pain/discomfort in jaw, neck, arms, or between shoulder blades	64.9	58.1	0.002	67.7	58.6	0.003	62.6	57.3	0.293	55.4	48.5	1
Palpitations	18.7	12.5	<0.001	15.4	11.0	0.103	21.5	14.6	0.022	8.5	11.9	1
Shortness of breath	52.8	47.6	0.043	51.2	48.7	1	54.2	46.1	0.035	41.2	42.6	1
Sweating	53.3	55.5	0.774	62.1	63.1	1	45.8	45.1	1	39.2	40.6	1
Weakness or fatigue	45.2	40.9	0.142	46.1	43.7	1	44.4	37.1	0.068	31.9	32.7	1
Confusion	12.1	11.2	0.774	13.3	12.6	1	11.0	9.2	0.999	10.0	4.0	0.496
Number of associated, non–chest pain symptoms												
Mean (SD)	3.4 (2.0)	3.0 (1.9)	<0.001	3.5 (1.9)	3.2 (1.9)	0.001	3.2 (2.0)	2.8 (1.9)	<0.001	2.6 (1.7)	2.5 (1.5)	0.582
0 symptoms, %	5.6	6.7	<0.001	4.2	5.7	0.009	6.8	8.0	<0.001	4.2	4.9	0.801
1–2 symptoms, %	32.5	38.5		29.8	36.8		34.7	40.9		49.4	50	
3–4 symptoms, %	33.0	33.4		36.2	33.6		30.2	33.2		31.8	34.3	
>4 symptoms, %	29.0	21.4		29.7	24.0		28.3	17.9		14.6	10.8	

Lichtman et al, Circ 2018

Délais de prise en charge

LE SCA de la femme: délais et traitements

- Délai appel : + 15 min en moyenne ajustée *(Manzo-Silberman et al, Int J Cardiol 2018)*
- Délai système: pas de différence
- Moins d'exploration/revascularisation
- Moins d'anti agrégants, de statines, d'IEC *(Simon T et al , EHJ 2006; Schiele et al, Am J C2011)*

Délais STEMI

	Unadjusted Analysis*			Adjusted Analysis**		
	Men	Women	P	Men	Women	P
PATIENT DELAY	n = 12,427	n = 3,859		n = 12,426	n = 3,859	
Mean ± SD* Or EMM ±SE**	122.3 ± 140.6	149.2 ± 153.2		134.6 ± 1.6	150.1 ± 2.5	
Mean difference (95%CI)	26.8 (21.4-32.3)		<0.001	14.4 (9.3-19.5)		<0.001
ISCHEMIC DELAY	n = 10,979	n = 3,151		n = 10,972	n = 3,151	
Mean ± SD* Or EMM ±SE**	293.3 ± 798.5	360.7 ± 794.1		385.6 ± 10.7	404.4 ± 16.2	
Mean difference (95%CI)	16.1 (35.8-98.8)		<0.001	18.8 (-13.4-51.0)		0.25
SYSTEM DELAY	n = 10,979	n = 3,151		n = 10,978	n = 3,151	
Mean ± SD* Or EMM ±SE**	186.1 ± 780.3	233.0 ± 773.1		281.1 ± 10.5	287.5 ± 15.8	
Mean difference (95%CI)	15.7 (16.2-77.6)		0.003	6.4 (-25.2-37.9)		0.69

Manzo-Silberman et al Int J Cardiol 2018

Prise en charge STEMI

	Men (N = 12,712)	Women (N = 4021)	Total (N = 16,733)	p Value
ST-elevation management				
Use of emergency call number n (%)	8729 (68.7)	2555 (63.5)	11,284 (67.4)	<0.001
Pre-hospital aspirin n (%) N = 10,000	7278 (94.9)	2177 (93.4)	9455 (94.6)	0.018
Pre-hospital P2Y12 inhibitors n (%) N = 9616	6457 (87.7)	1916 (85)	8373 (87.1)	0.004
Pre-hospital GPIIbIIIa inhibitors n (%) N = 10,837	2783 (33.5)	716 (28.3)	3499 (32.3)	<0.001
Reperfusion n (%)				<0.001
Fibrinolysis only	774 (6.2)	170 (4.4)	944 (5.8)	
Primary PCI	8396 (67.6)	2574 (66.7)	10,970 (67.4)	
Rescue PCI	1815 (14.6)	408 (10.6)	2223 (13.6)	
No reperfusion	1442 (11.6)	707 (18.3)	2149 (13.2)	

Manzo-Silberman et al Int J Cardiol 2018

Explorations

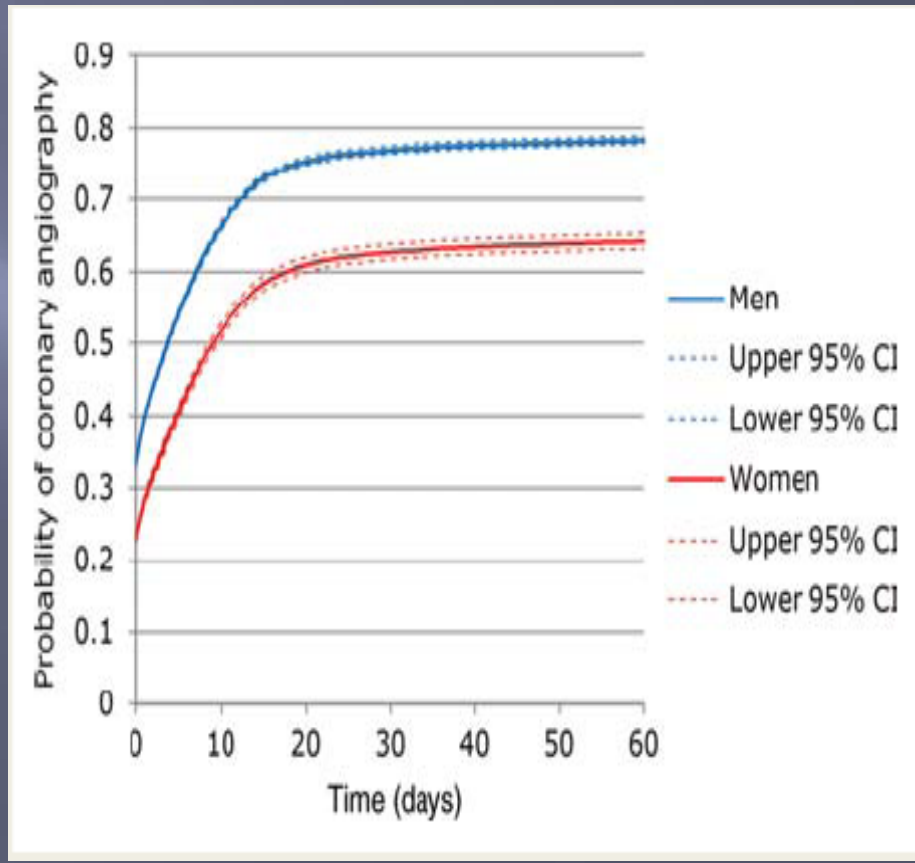
Table 2. Rates of Coronary Angiography and Male-to-Female Relative Risks after Stratification for Potential Confounding Variables.*

VARIABLE	MASSACHUSETTS			MARYLAND		
	RATE IN MEN	RATE IN WOMEN	RELATIVE RISK (95% CONFIDENCE INTERVAL)	RATE IN MEN	RATE IN WOMEN	RELATIVE RISK (95% CONFIDENCE INTERVAL)
Principal diagnosis						
Myocardial infarction	17.2	9.3	1.85 (1.68–2.04)	16.6	9.8	1.69 (1.50–1.92)
Unstable angina	20.2	11.4	1.77 (1.63–1.93)	14.4	8.7	1.67 (1.48–1.87)
Angina pectoris	24.1	11.4	2.12 (1.88–2.39)	21.1	14.7	1.43 (1.24–1.66)
Chronic ischemia	62.0	60.5	1.03 (0.99–1.07)	63.3	57.3	1.11 (1.06–1.15)
Chest pain	8.4	11.0	0.76 (0.67–0.86)	10.5	15.7	0.66 (0.58–0.76)
Age (yr)						
30–49	29.2	21.5	1.36 (1.24–1.49)	27.8	20.6	1.35 (1.22–1.50)
50–69	31.9	21.8	1.46 (1.40–1.53)	33.5	23.8	1.41 (1.34–1.48)
70–89	17.0	9.6	1.77 (1.63–1.91)	17.8	9.5	1.89 (1.70–2.09)
Congestive heart failure						
Yes	15.6	9.0	1.73 (1.51–1.98)	13.3	8.6	1.55 (1.29–1.86)
No	29.0	17.4	1.67 (1.60–1.73)	30.4	19.2	1.58 (1.52–1.65)
Diabetes mellitus						
Yes	23.1	14.9	1.55 (1.42–1.70)	25.3	15.4	1.64 (1.47–1.83)
No	28.3	16.4	1.72 (1.65–1.79)	29.2	18.3	1.60 (1.53–1.67)
Race						
White	28.1	16.4	1.71 (1.65–1.78)	29.9	18.5	1.62 (1.55–1.69)
Nonwhite	19.7	12.9	1.52 (1.31–1.77)	21.8	14.8	1.47 (1.32–1.64)
Insurance status						
Insured	27.8	16.2	1.72 (1.66–1.79)	29.2	17.8	1.65 (1.58–1.72)
Uninsured	17.8	14.6	1.22 (0.96–1.55)	16.8	16.1	1.05 (0.81–1.36)

*Rates shown are the numbers of procedures per 100 admissions.

Ayanian, NEJM 1991

taux de coronarographie



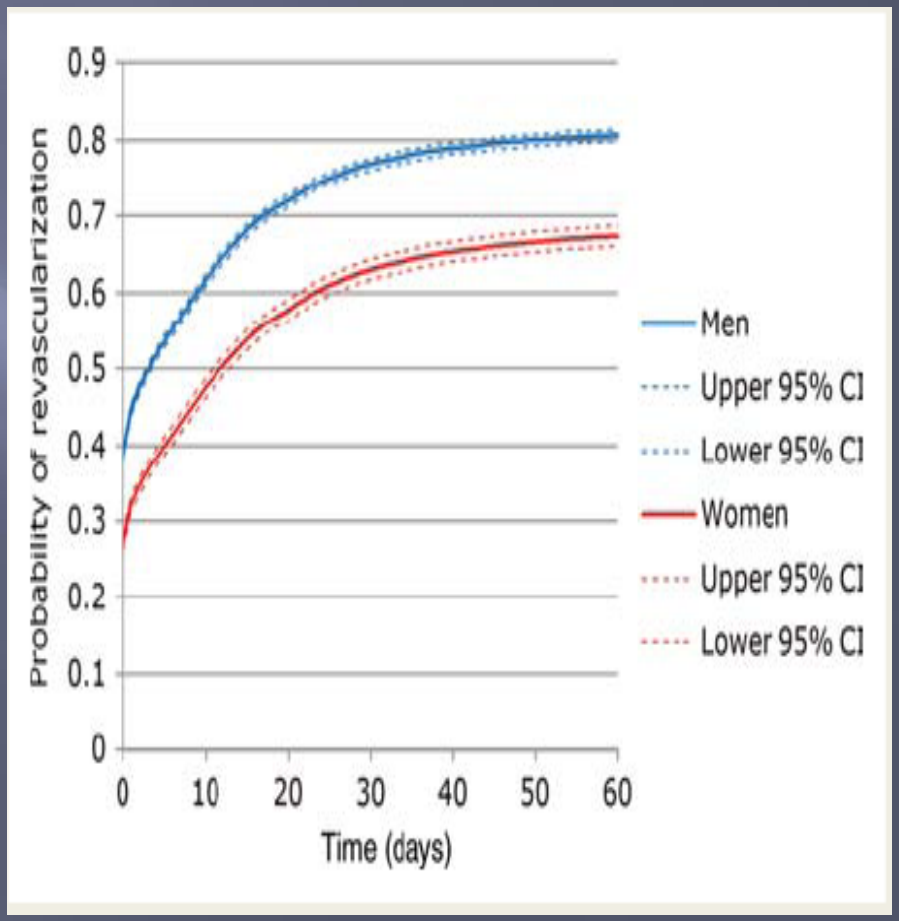
HR: 0.84 , 95% CI [0.81-0.87], p<0.0001

European Heart Journal (2010) **31**, 684–690

Reperfusion

Women with acute coronary syndrome are less invasively examined and subsequently less treated than men

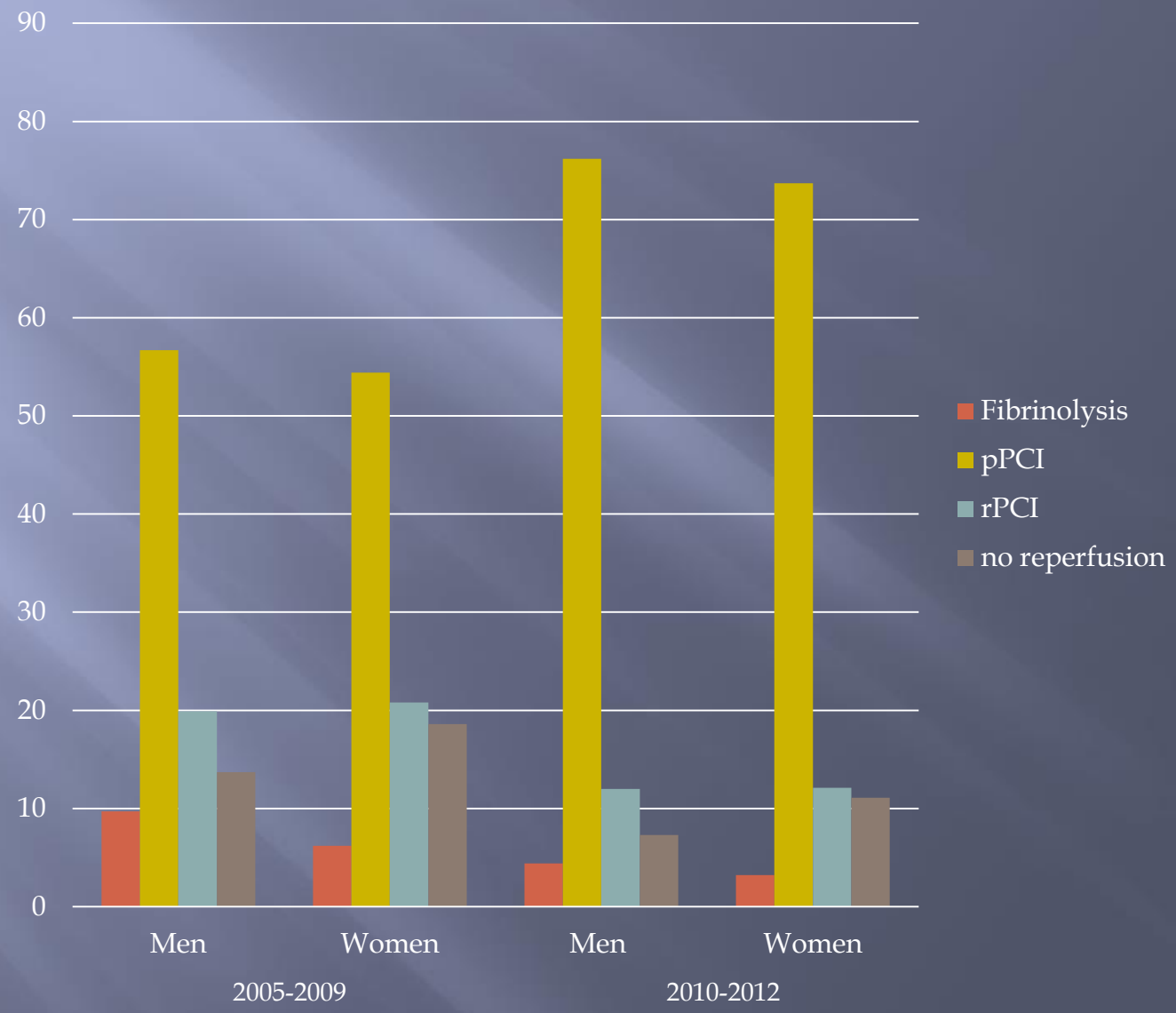
- Moins de revascularisation (**Aklfredsson, Heart 2007; Lansky Circ 2005)**
- Risque complication locale ***Applegate et al J Inv Card 2007***
- Un bénéfice controversé:
  - Frisc 2 (1999) , RITA 3 (2002), OASIS 5 (2009):
    ↑IDM et Décès bras stratégie invasive
  - TACTICS-TIMI 18 (2004), méta analyse (JAMA 2008): ↑ pronostic surtout si haut risque



HR: 0.92 , 95% CI [0.88-0.96], p<0.0001

European Heart Journal (2010) **31**, 684–690

Femmes jeunes: Reperfusion



Personnal data

LE SCA de la femme: pronostic

- **Formes sans douleurs** *(Canto et al. Am J C 2011)*
- **Mortalité hospitalière X 1,8**
- **Atténuation différence après ajustement sur traitement** *(Schiele AmJC 2011)*
- **Mortalité à 1 an: disparition différence après ajustement sur âge et comorbidités**
  (Pancholy SB, et al. JAMA Intern Med. 2014)

Pronostic

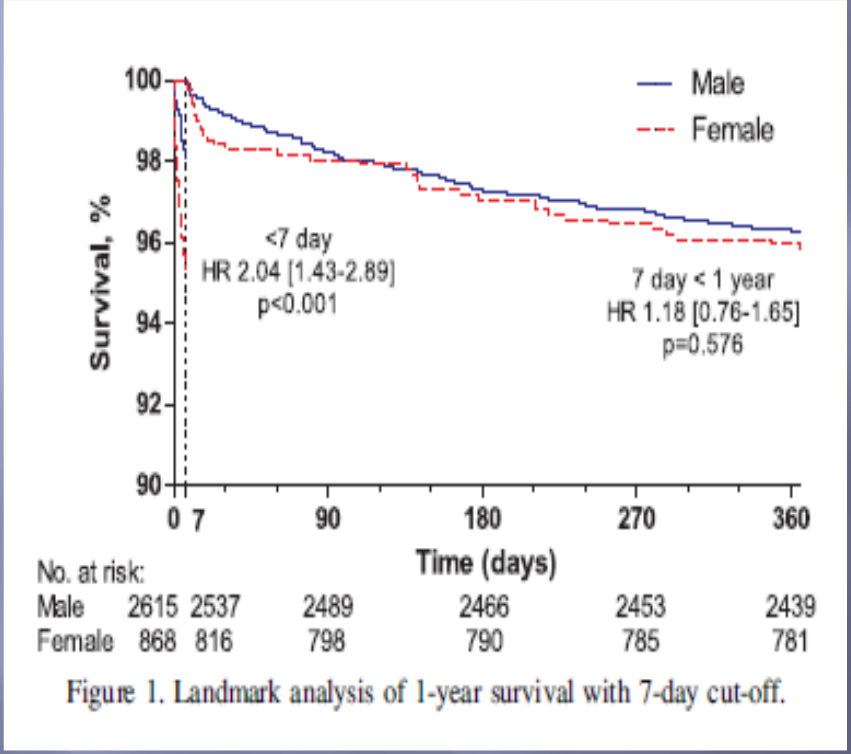
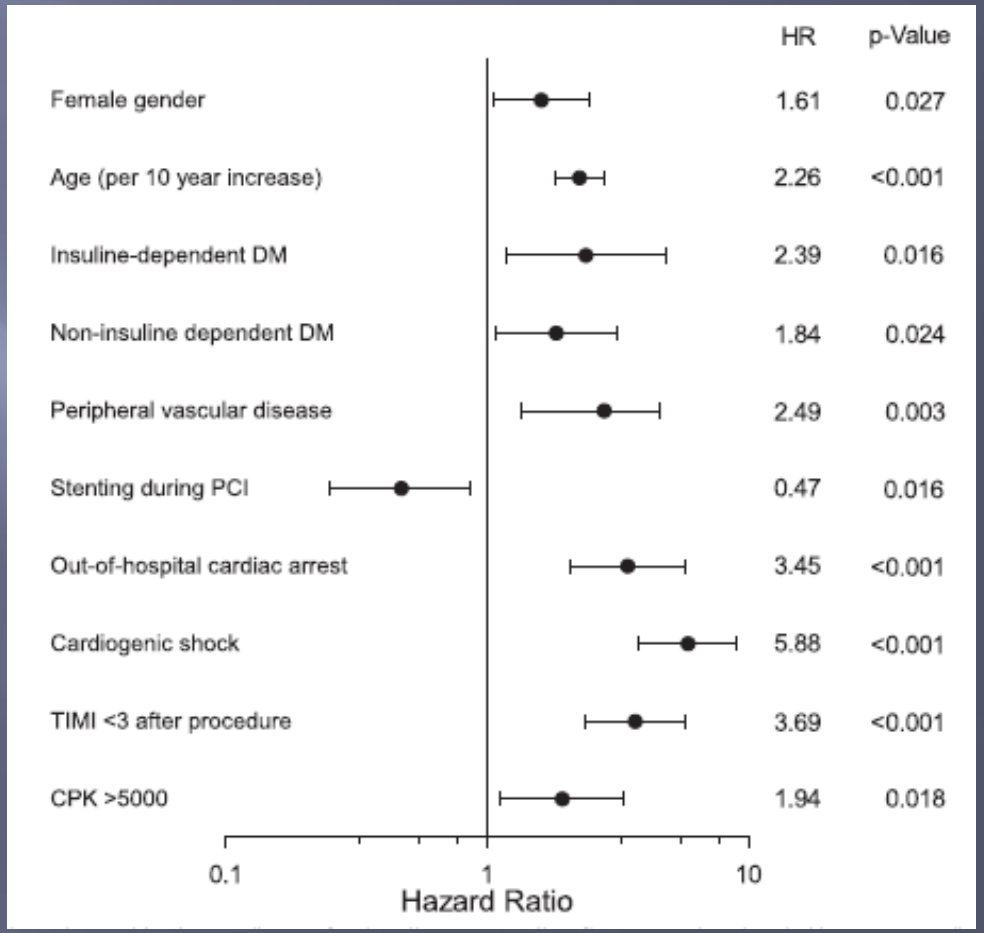
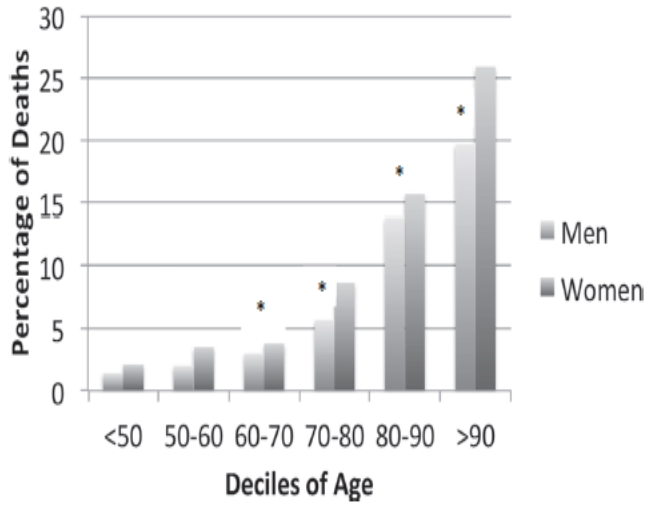


Figure 1. Landmark analysis of 1-year survival with 7-day cut-off.



Velders MA et Al. Am J Cardiol 2013

Mortalité hospitalière



	<50	50-59	60-69	70-79	80-89	>90
Female (n)	383	463	589	937	1024	174
Male (n)	2423	2948	3110	1921	1860	84
OR	ref	1.44	2.11	4.59	11.24	20.35
IC		0.99-2.12	1.47-3.04	3.27-6.45	8.07-15.64	13.29-31.16
P value		0.06	<0.001	<0.001	<0.001	<0.001

Fig. 2. In-hospital mortality rate according to age in deciles. Univariate odds ratio and interquartile range for in-hospital mortality.

Manzo-Silberman et al Int J Cardiol 2018

Mortalité

Sex Differences in Short-, Long-term Mortality Among Patients With STEMI Treated With PCI

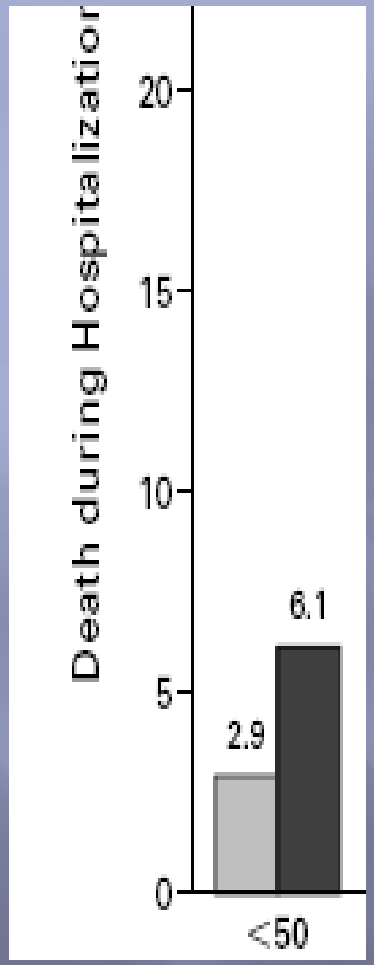
Meta-analysis of data from 35 studies including 41,766 patients (18,555 women) treated with primary PCI within 12 hours of symptom onset.

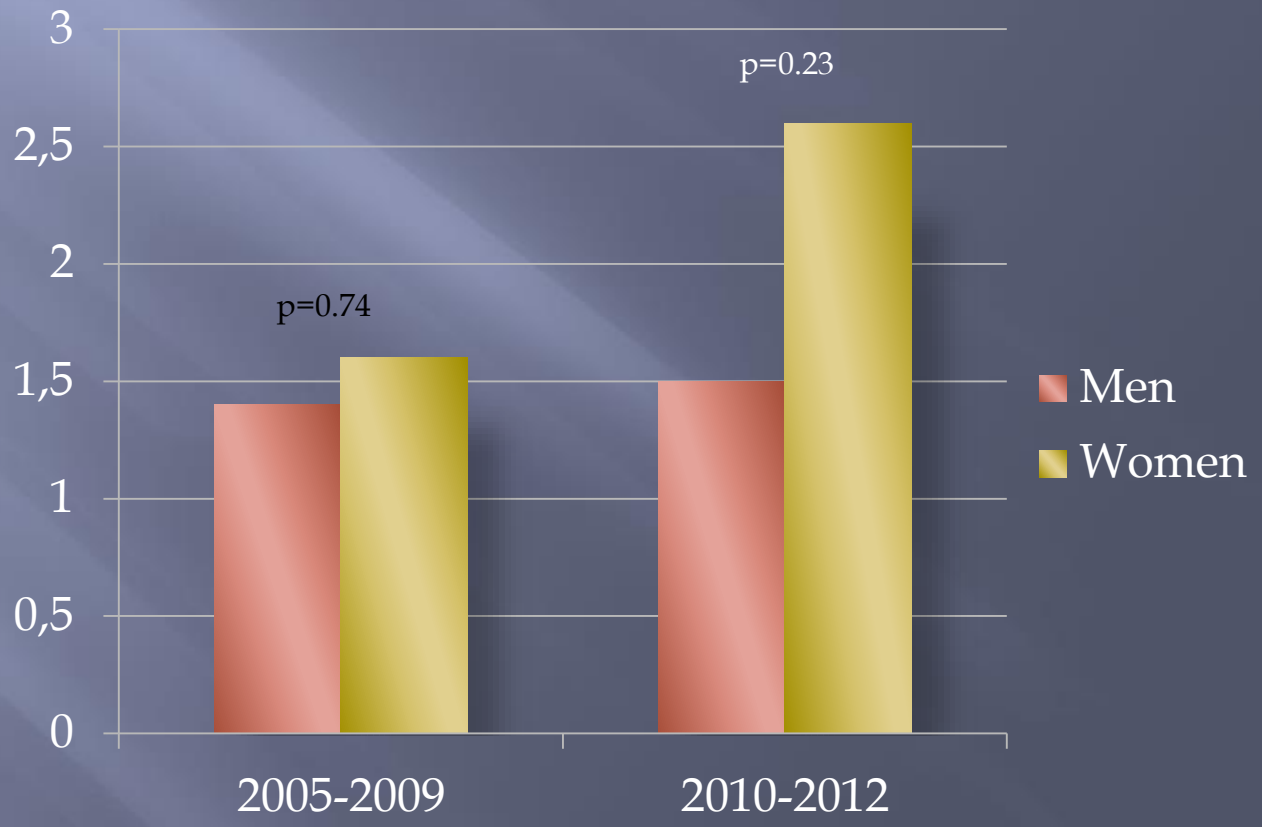
Mortality Risk: Women vs Men	RR	95% CI	*P* Value
In-Hospital			
Unadjusted	1.93	1.75-2.14	< .001
Adjusted	1.48	1.07-2.05	.02
At 1 Year			
Unadjusted	1.58	1.36-1.84	< .001
Adjusted	0.90	0.69-1.17	.42

Conclusion: Women are more likely than men to die in-hospital after PCI for STEMI, perhaps due to modifiable risk factors.

Pancholy SB, et al. JAMA Intern Med. 2014

Femmes jeunes : STEMI mortalité hospitalière

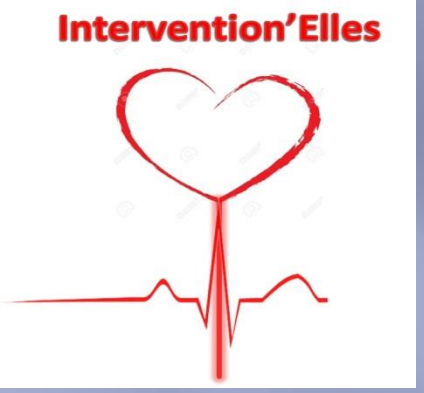


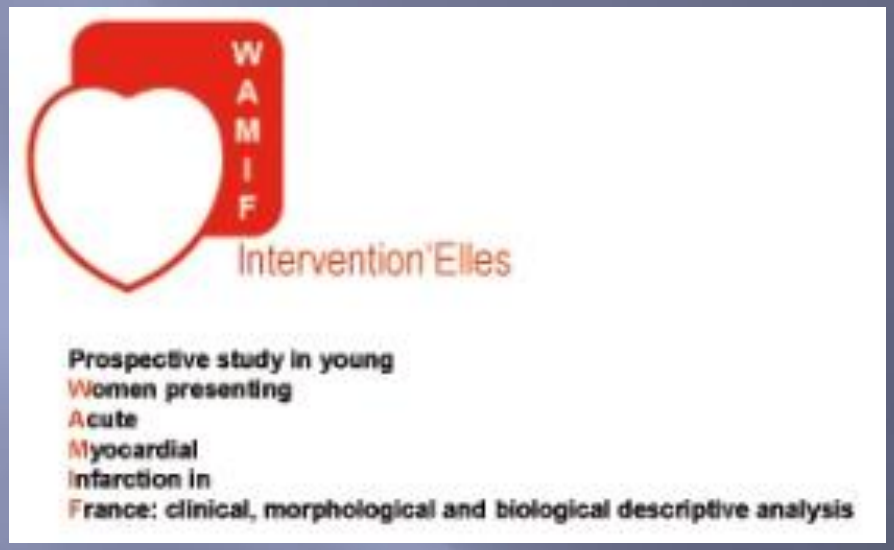


Personnal data

Take home messages

- Facteurs de risque spécifiques
- Exploration adaptée
- Intérêt des explorations coronaires fonctionnelles: vasospasme, dysfonction microvasculaire…
- Intérêt de l'imagerie endocoronaire pour formes moins fréquentes de SCA
- SCA: prise en charge interventionelle





ETUDE PROSPECTIVE DE L'INFARCTUS DE LA FEMME JEUNE : ANALYSE DESCRIPTIVE CLINIQUE, MORPHOLOGIQUE ET BIOLOGIQUE:

ETUDE WAMIF

ETUDE WAMIF

Prospective study in young Women presenting Acute Myocardial Infarction in France: clinical, morphological and biological descriptive analysis

Promoteur : SFC
300 patientes < 50 ans suivi 18 mois 34 centres en France
Commencée juin 2017 – 291 patientes incluses en mai 2019
Résultats prévus en 2021

Primaire

Evènements majeurs durant l'hospitalisation index hospitalier : décès toute cause, décès cardio-vasculaire, récidive d'IDM, thrombose de stent, AVC et saignement majeur.

- **Co-Primaires**

  Type de lésion angiographique
  Inflammation
  profils hormonaux à risque : élévation SHBG
  Evènements majeurs à 12 mois de l'hospitalisation index hospitalier : décès toute cause, décès cardio-vasculaire, récidive d'IDM, thrombose de stent, AVC et saignement majeur

- **Secondaires**

  Prévalence des formes non athéromateuses : érosions, dissections, hématomes, embolies coronaires et spasme ;
  Prévalence des thrombophilies
  Prévalence des atteintes artérielles extra coronaires
  Prévalence des atteintes héréditaires

Investigateur Coordonnateur : Dr Stéphane MANZO SILBERMAN