

The French registry of Acute ST elevation or non-ST-elevation Myocardial Infarction (FAST-MI): study design and baseline characteristics.

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Summary

The FAST MI registry was designed to evaluate the 'real world' management of patients with acute myocardial infarction (MI), and to assess their in-hospital, medium- and long-term outcomes. Patients were recruited consecutively from intensive care units over a period of one month (from October 2005), with an additional one-month recruitment period for diabetic patients.

The study included 3059 MI patients in phase 1 and an additional 611 diabetic patients in phase 2. Altogether, 53% of the patients had a final diagnosis of Q wave MI and 47% had non Q wave MI. Patients with Q wave MI were more likely to be men, younger, more frequently with a family history or a history of smoking. Patients with non Q wave MI had worst baseline demographic and clinical characteristics mainly explained by their older age. Time from symptom onset to hospital admission was less than three hours for 22% of the patients with Q wave MI and for 14% of the non Q wave MI patients. Among patients with Q wave MI, 64% received reperfusion therapy, 35% with primary percutaneous coronary interventions, 19% with pre-hospital thrombolysis and 10% with in-hospital thrombolysis. Over 70% of patients received statin therapy during the hospital stay and over 90% anti platelet agents. In-hospital mortality was 5.8% in patients with Q wave MI and 4.9% in patients with non Q Wave MI.

At discharge beta-adrenergic blockers and statins and, to a lesser extent, medications of the renin angiotensin system were commonly prescribed. Over 90% received antiplatelet agents.

Résumé

Registre Français des syndromes coronaires Aigus avec ou sans sus-décalage du segment ST : protocole et caractéristiques initiales.

L'objectif principal du registre FAST MI est d'évaluer la prise en charge des infarctus du myocarde (IDM) dans la vie réelle et d'évaluer son impact sur le devenir à moyen et à long terme des patients. Les patients ont été inclus dans les unités de soins intensifs de cardiologie (USIC) consécutivement sur une période d'un mois, avec une extension d'un mois supplémentaire pour les patients diabétiques.

Le registre a inclus 3059 patients lors de la première phase et 611 patients diabétiques supplémentaires lors de la phase d'extension. A la sortie de l'hôpital 53 % des patients ont été classés comme ayant un infarctus avec onde Q et 47 % avec un diagnostic d'infarctus sans onde Q. Les patients avec un IDM avec onde Q sont plus souvent des hommes, ils sont plus jeunes, ils ont plus fréquemment des antécédents familiaux et ils sont plus souvent tabagiques. Les patients avec un IDM sans onde Q ont des caractéristiques sociales, démographiques et cliniques plus défavorables largement expliquées par leur plus grand âge. Le délai entre le début des symptômes et l'arrivée en USIC est de moins de trois heures pour 22 % des IDM avec onde Q et pour 14 % des IDM sans onde Q. Parmi les patients avec un IDM avec onde Q, 64 % ont eu un traitement de reperfusion (angioplastie primaire 35 %, thrombolyse pré-hospitalière 19 % et thrombolyse intra-hospitalière 10 %). Pendant la phase aiguë, 70 % des patients reçoivent des statines et plus de 90 % des antiagrégants plaquettaires. La mortalité hospitalière est de 5,8 % pour les infarctus avec onde Q et de 4,9 % pour les infarctus sans onde Q.

A la sortie de l'hôpital, les bêtabloquants et les statines sont fréquemment prescrits, tandis que les antiagrégants sont utilisés de façon quasi-systématique. Les médicaments du système rénine-angiotensine sont prescrits chez près de deux tiers des patients.

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BACKGROUND

Myocardial infarction and more generally acute coronary syndromes (ACS) are frequent and severe diseases [1, 2]. Over the last decade, thanks to the results of many controlled prospective studies [3-18], considerable progress has been made in their management, both in the acute phase, and in the implementation of secondary prevention beyond the hospital phase. The impact, in daily clinical reality, of this rapid advance in knowledge is difficult to evaluate. However it is essential to verify, on the one hand, whether the recommendations produced by the rapid advance in knowledge in this disease are effectively applied and, on the other hand, whether applying these recommendations really improves patient prognosis. Beyond the evaluation of recommended practices, however, many questions remain concerning the best way of organising care for acute coronary syndromes.

In the second part of the 1990s, the USIC 1995 and USIC 2000 registries were set up to evaluate the changes in 'real life' practice on a nationwide basis in France, and to measure their impact on the medium term prognosis of patients admitted into intensive care for myocardial infarction [19-24]. From these registries, it was possible to highlight short and medium term prognostic factors for patients hospitalised for infarction. It was also possible to analyse the impact of the type of reperfusion undertaken during the first hours of acute coronary syndromes with ST elevation. Contrary to data from randomised studies, it has appeared that patients treated by intravenous thrombolysis had a prognosis equivalent to that of patients treated by primary angioplasty [19]. In the most recent survey, patients having received a pre-hospital thrombolytic treatment were those who had the best outcome [23]. Furthermore, initiation of statin therapy in the 48 hours following admission for myocardial infarction was followed by improved prognosis (recurring myocardial infarction or cardiovascular death) at one year [24]. Such data are obviously not without consequences, when it comes to thinking about how care should be delivered in a country such as France.

Beyond ST-elevation myocardial infarction, growing attention has been given to non-ST-elevation acute coronary syndromes. However, the USIC 1995 and USIC 2000 registries only included 27% of such patients. Since the year 2000, systematic troponin measurement has become the rule in virtually all institutions, leading to better diagnosis of non-ST-elevation myocardial infarctions [25]. There is a need to analyse the impact of treatments prescribed from the earliest days, the use of coronary angiography and angioplasty and many other specific subjects, such as a study of regional disparities, behaviour of specific populations (women, diabetics, hypertensives, etc.) and the impact of therapeutic measures on prognosis and major cardiovascular events in these populations. In France and elsewhere, other registries have been set up over the last few years: ACS registries of the European Cardiology Society (**Euro Heart Survey**) [1], **GRACE** registry

[26], **ENACT** registry [27], **PREVENIR** registries [28, 29]. Most of them suffer from the fact that they only involve a small number of selected centres and volunteers. Only seven French centres took part in the ACS registry in Euro Heart Survey, which therefore does not reflect practices on the scale of a country such as France. Others, such as the Côte-d'Or *department* observatory RICO [30], is exemplary in its exhaustiveness, but only involves a limited geographical region.

So it appears essential to have a really representative national database to be able to evaluate variations in management practice and their correlations with short, medium and long-term prognosis after the acute event. An exhaustive study would be all the more important because there is such a steep North-South gradient in cardiovascular risk in France that northern regions have a risk profile close to that of Northern and Central Europe, whereas the south has a risk profile similar to that of Mediterranean countries [31, 32].

The study of clinical, biological and genetic characteristics and conditions of management of patients with an ACS, will make it possible to identify patients at risk of increased morbidity-mortality, and will serve as a basis for carrying out subsequent specific studies on the best practical management according to the different risk profiles. The ambition of the French registry of Acute ST elevation or non-ST-elevation Myocardial Infarction (**FAST-MI**) of the *Société Française de Cardiologie* is to present a 'life size' picture of present practices in France, including all centres from the largest to the smallest, and to study the different risk profiles according to region. Further, as diabetes is becoming more prevalent in patients with myocardial infarction and poses specific therapeutic problems, the **FAST-MI** registry was specifically designed to include a high number of diabetic patients by extending the recruitment period in these patients. The **FAST-MI** registry has two unprecedented characteristics: 1) it recorded all medications used before, at the acute stage and at hospital discharge, including the daily doses of the medications, and 2) central laboratory measurements were made, with DNA sampling in the majority of the patients.

OBJECTIVES OF THE STUDY

Primary objective

To evaluate practices for MI management in 'real life' practice, and to measure their impact on the medium- and long-term prognosis of patients admitted to intensive care for an MI

Secondary objectives

- To compare medium and long-term survival (six months, one year and up to five years) according to management methods following admission to a CCU.
- To validate professional recommendations on 'real life' MI management.

– To assess regional disparities in MI management and look for different predictive factors of patient outcome.

– To assess the impact of different management methods according to risk profiles.

– To assess the impact of pre-admission chronic therapy on in-hospital and late outcomes, particularly for diabetic patients.

– To determine the impact of several genetic polymorphisms on morbidity-mortality and their interaction with the effect of medications.

– To determine the impact of biomarkers on morbidity-mortality after MI.

– To evaluate changes in practice in France over the last ten years by comparing the current data with those of the two previous nationwide French registries which were constructed using a methodology close to that used for the present registry.

POPULATION STUDIED

Inclusion criteria

In order to be included, each patient should meet the conditions below:

1) Man or woman aged over 18;

2) Patients admitted within 48 hours after symptom onset in an intensive care unit (ICU) for an acute myocardial infarction characterised by elevation of troponin or CPK-MB associated with *at least one of the following elements*:

- Symptoms compatible with myocardial ischemia,
- Appearance of pathological Q waves,
- ST-T changes compatible with myocardial ischemia (ST segment elevation or depression, T wave inversion);

3) And having agreed to take part into the study.

MI with ST elevation (STEMI) was diagnosed when ST elevation ≥ 1 mm or new bundle branch block was seen in at least two contiguous leads in any location in the index or qualifying ECG.

MI without ST elevation (non Q wave MI) was diagnosed when no ST-segment elevation was seen in the index or qualifying ECG.

Patients who died very early after admission and for whom cardiac markers were not measured were included if they had compatible signs or symptoms associated with typical ST changes.

Participating in the protocol did not change the therapeutic approach of the cardiologist in any way. Likewise, the study of phenotype characteristics did not change the approach of the health teams in any way. At the time the usual blood sample was taken when the patient was admitted to the ICU, an addi-

tional 50 ml was taken to build up a DNA bank and a serum bank. Written informed consent was provided by each patient for participating in the study.

The study was conducted in compliance with Good Clinical Practice (GCPs), French Law and the French data protection law. The protocol was reviewed by the Committee for the Protection of Human Subjects in Biomedical Research (CCPPRB) of Saint Antoine University Hospital. Data file of the FAST-MI registry was declared to the *Commission Nationale Informatique et Liberté* (CNIL).

Criteria for non-inclusion

Patients presenting with at least one of the criteria below could not be included:

1) Refusal to consent;

2) MI admitted > 48 h after symptoms;

3) Iatrogenic MIs, defined as MIs occurring within 48 hours of a therapeutic procedure (bypass surgery, coronary angioplasty or any other medical or surgical intervention);

4) ACS diagnosis invalidated in favour of another diagnosis;

5) Patients with unstable angina and no increase in cardiac biomarkers.

Source of recruitment

Patients were recruited consecutively from ICU departments over a period of one month (from October 2005) for all patients, and the recruitment period was extended to one month for diabetic patients.

Participation in the study was offered to all French institutions, university teaching hospitals, general and regional hospitals and private clinics with intensive care units authorised to receive ACS emergencies. In each centre, a physician was designated to provide a full list of all patients admitted to his/her institution and likely to meet the inclusion criteria.

Type of study

Prospective, multi-centre study (223 centres).

Participating centres

The objective of the study was to obtain exhaustive data over a 1-month period from all institutions in the French health care system (i.e., university hospitals, public hospitals or private clinics) to which the patients were admitted. To this end, a list of all intensive care or coronary care units admitting patients at the acute stage of myocardial infarction at the beginning of 2005 was established. All physicians in charge of these units were then asked to participate in the study. In all, 374 centres were listed: 42 university hospitals, 225 public

non academic hospitals, 96 private clinics, and 11 others centres, 223 of which finally participated in the study (60%). One physician responsible for the study was recruited at each centre. Patient care at each centre was performed according to usual practice.

Organisation of the study for the participants

Admission of patients in intensive care units

- All patients admitted within 48 hours after symptoms marking the MI onset and admitted into participating centres were prospectively included in the registry for a 31-days period beginning from October 2005. Recruitment was extended to two months for diabetic patients.

- A computerised case record form was filled in for each eligible patient. The initial characteristics and the clinical and therapeutic data on admission and during hospitalisation were noted by each investigator in each centre. In the same way, data concerning the clinical events occurring during hospitalisation and treatment were collected.

- A contract research organisation (CRO) (ICTA, Fontaine-lès-Dijon, France) was selected to collect all data needed for the study in the patient's observation file. Research technicians from the CRO were sent in each centre on a weekly basis to collect the necessary information. In the case of incomplete data from the source patients' files, the research technicians contacted the local investigator to retrieve the missing data.

- An external audit procedure was conducted in 3 of the 21 regions participating in the study. Concordance with the initial data was found in over 90% of the cases.

Data collection

Cardiovascular and non cardiovascular previous history, risk factors (smoking status, hypertension or treated hypertension, dyslipidemia or treated dyslipidemia, family history, diabetes mellitus, and clinical course over hospital stay, including, symptoms, Killip class, maximal Killip class, therapeutic management during the first 48 hours, during the hospital stay including PCI, thrombolysis and at discharge, were recorded for each patient. Furthermore, left ventricular ejection fraction (LVEF), when assessed at entry and at any time during the hospital stay was recorded. In hospital, five day, 30 day and 180 day survival was recorded.

Patients' follow-up

Patients' follow-up is made by the reference investigators in the participating institutions, by the *Société Française de Cardiologie* (SFC) research team or both.

The SFC research team uses a sequential follow-up procedure: 1) consulting data on death at the birthplaces registrar's offices, 2) writing to the family doctors and/or cardiologists and 3) writing to the patients

themselves. In many instances, written contact is followed by telephone interviews to the patients or their family. A specific procedure was set-up to categorise the clinical events occurring during follow-up. Hospital discharge letters were systematically sought for each event leading to hospitalisation or death and were analysed by a physician from the research team. All cases of cardiovascular events in which the final diagnosis appeared unclear were reviewed by a 3-member critical events committee.

Statistical analysis

Descriptive analysis

For quantitative variables, means, standard deviations, and minimum and maximum values are calculated. In addition, medians with the interquartile range are calculated for some of the variables. Discrete variables will be presented as percentages. Comparisons are made with chi-square or Fisher's exact tests for discrete variables, and by unpaired T tests, Wilcoxon sign-rank tests or one-way analyses of variance for continuous variables.

Each relative risk value is given with its 95% confidence interval.

Analyses of survival

In-hospital survival is described as percentages and comparisons are made by chi-square tests. Multivariate analyses of predictors of short-term outcome (five days, in-hospital, and thirty days) are made by using a stepwise multiple logistic regression analysis.

Follow-up is scheduled up to five years, with a possible extension up to ten years. Survival curves according to management methods are estimated using the Kaplan Meier estimation and compared using a log rank test. Correlates of survival are determined using a multivariate stepwise Cox model.

Variables included in the final multivariate models are those with a significance level < 0.15 in the univariate analyses.

Comparison with previous registries

To evaluate the change in practice in France over the last ten years, the results will be compared with those from the two registries set up in 1995 and 2000, using analysis of variance, Student and Wilcoxon tests for the qualitative variables and the Chi² test or Fisher's exact test for quantitative variables.

Place of data analysis, software used, and person in charge of data analysis.

Phenotype analyses will be carried out using the SAS version 8.2 (SAS Institute, Cary, NC), the STATA (Version 9) or the SPSS version 14.0 (SPSS inc. Chicago, IL, USA) softwares by J.-P. Cambou and N. Danchin (SFC).

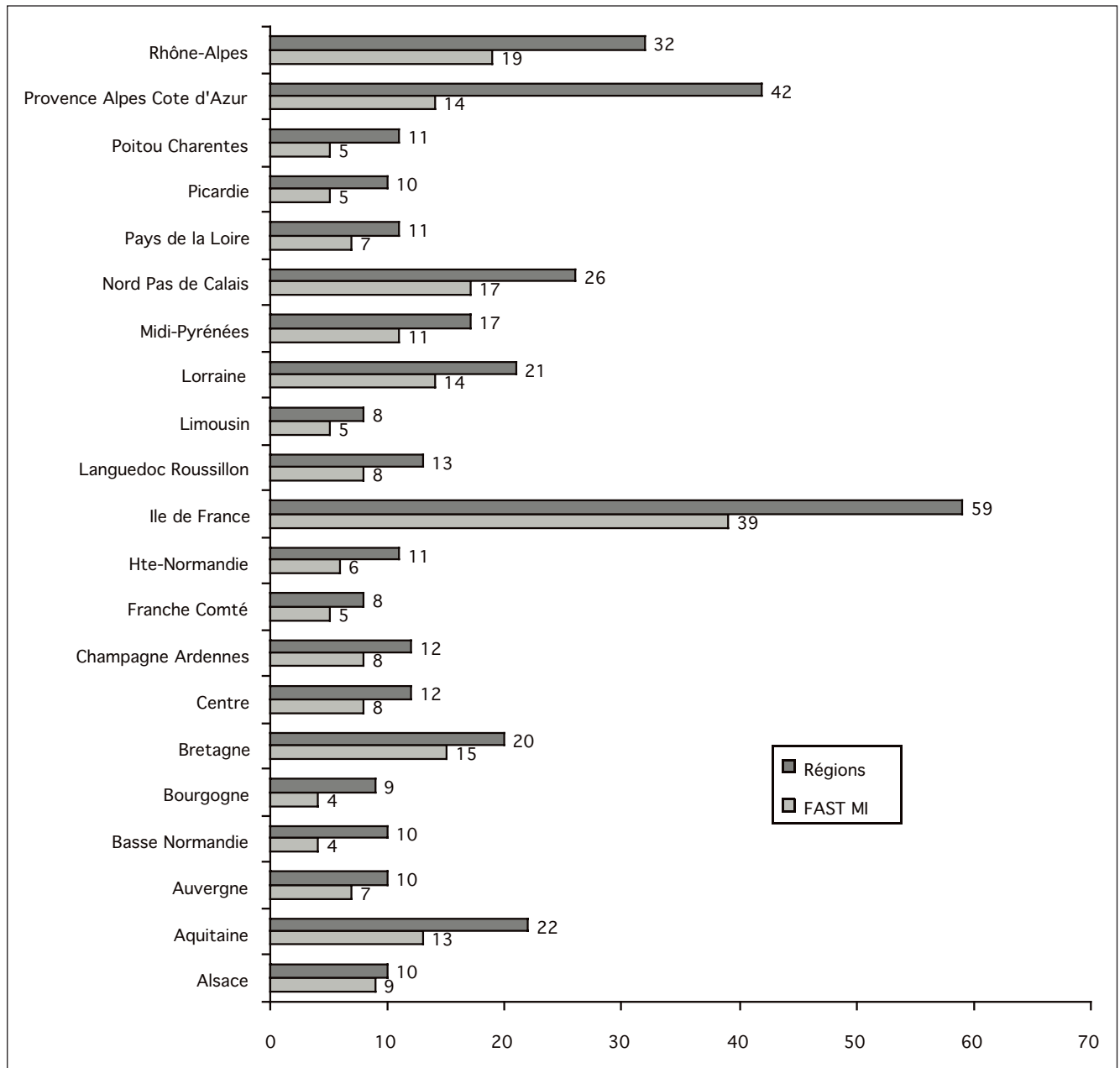


FIG. 1 – Number of ICUs taking care of patients with acute myocardial infarction and participating centres according to administrative regions.
 FIG. 1 – Nombre d'unités de soins intensifs prenant en charge des patients avec des syndromes coronaires aigus et centres participants par régions administratives.

Analyses of the genotype correlation or the serology with the phenotypes will be carried out by M. Mary-Krause and A. Rousseau under the direction of T. Simon and N. Danchin.

Duration of recruitment

The total duration of recruitment was one month (31 days) per centre for all patients and two months for diabetic patients. Beginning of inclusion in the par-

ticipating centres ranged from October the 1st 2005 to November the 3rd 2005.

RESULTS

A total of 3134 case record forms were gathered during the first phase of the study, of which 75 had to be excluded for not meeting the entry criteria for the study; 50 corresponded to infarctions that

occurred beyond the time limits of the study or the time from onset of symptoms to hospital admission exceeded 48 hours and 25 did not fulfil the required diagnostic criteria for acute myocardial infarction. Therefore, the study included 3059 patients. An additional 611 cases were gathered during the one-month extension phase for diabetic patients and this population will not be described in the present article.

Entry and final diagnoses

The entry diagnosis was MI with ST elevation (STEMI) in 52.3%, with LBB in 3.8%, with an undetermined electrocardiographic pattern in 0.8%, pacemaker in 0.8% and without ST elevation (NSTEMI) in 41.0%, patients Altogether, 52.9% of the patients had a final diagnosis of Q wave MI and 47.1% non Q wave MI

Type of institutions and admission pathways

Altogether the patients were enrolled in 223 hospitals, 39 university hospitals, 132 public non academic hospitals, 44 private clinics and 8 others centres. The participation of centres and recruitment of patients according to a geographic subdivision into 21 French administrative regions is shown in fig. 1 and 2. The participation rate according to the type of centre is shown in fig. 3 and table I. The majority of patients were first admitted to emergency room, with only a minority first admitted to the intensive care unit (ICU). The median (25th, 75th percentiles) duration of hospitalization was 7 (4, 10) days for Q wave MI patients and 7 (4, 12) days for non Q wave MI patients.

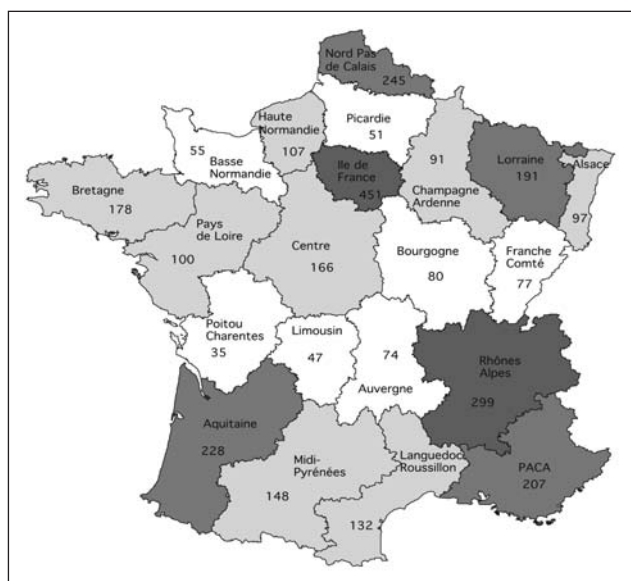


Fig. 2 – Recruitment of patients according to French administrative regions.

FIG. 2 – Recrutement des patients par régions.

Demographic and clinical features according to final diagnosis

The characteristics of the patients were described in table II. Patients with a final diagnosis of Q wave MI were more likely to be younger, men, with a family history and current or ever smokers. Patients with non Q wave MI had worst baseline demographic and clinical characteristics mainly related to their older age. They were more likely to have previous heart disease (infarction, heart failure), as well as other co-morbid conditions such as diabetes mellitus, hypertension, renal failure, peripheral arterial disease or cerebro-vascular disease. Non Q wave MI

TABLE I—DISTRIBUTION OF PATIENTS ACCORDING TO TYPE OF INSTITUTION AND INITIAL PLACE OF ADMISSION

	Q wave MI (n = 1617) 52.9%	Non Q wave MI (n = 1442) 47.1%	p
	%	%	
Hospitals			< 0.001
Academic hospitals	38.0	31.3	
Non academic hospitals	41.3	50.6	
Private clinics	15.6	13.3	
Others hospitals	5.1	4.8	
Hospital with on-site PCI Initial ward of admission	80.6	68.1	< 0.001
Emergency room	52.2	64.4	< 0.001
ICU	29.6	29.6	
Catheterisation laboratory	14.1	1.1	
Other	4.1	4.9	

TABLE II—BASELINE DEMOGRAPHIC AND CLINICAL CHARACTERISTICS ACCORDING TO FINAL DIAGNOSIS

	Q wave MI n = 1617	Non Q wave MI n = 1442	p
Age (years) mean	64.1 ± 14.7	70.2 ± 13.2	< 0.001
80 years (%)	16.4	25.5	< 0.001
Male gender (%)	71.6	64.8	< 0.001
Prior MI (%)	11.3	23.8	< 0.001
Prior angina (%)	10.2	23.3	< 0.001
Prior CABG (%)	2.3	9.0	< 0.001
Prior PCI (%)	8.8	17.8	< 0.001
CVD (%)	3.5	6.5	< 0.001
TIA (%)	2.7	4.4	< 0.001
PAD (%)	5.5	13.5	< 0.001
Prior HF (%)	3.5	8.1	< 0.001
Diabetes mellitus (%)	18.9	29.1	< 0.001
Smoking-ever (%)	57.8	47.7	< 0.001
Smoking-current (%)	37.5	22.2	< 0.001
Hypertension (%)	49.2	66.5	< 0.001
Hyperlipidaemia (%)	43.0	52.2	< 0.001
Family history (%)	25.1	20.6	< 0.001
Cancer (%)	6.1	7.1	0.23
Renal failure (%)	3.1	7.9	< 0.001
COPD (%)	2.9	6.0	< 0.001

MI: myocardial infarction; CABG: coronary artery bypass graft surgery; CVD: cerebrovascular disease; COPD: chronic obstructive pulmonary disease; HF: heart failure; MI: myocardial infarction; PAD: peripheral arterial disease; PCI: percutaneous coronary intervention; TIA: transient ischemic attack.

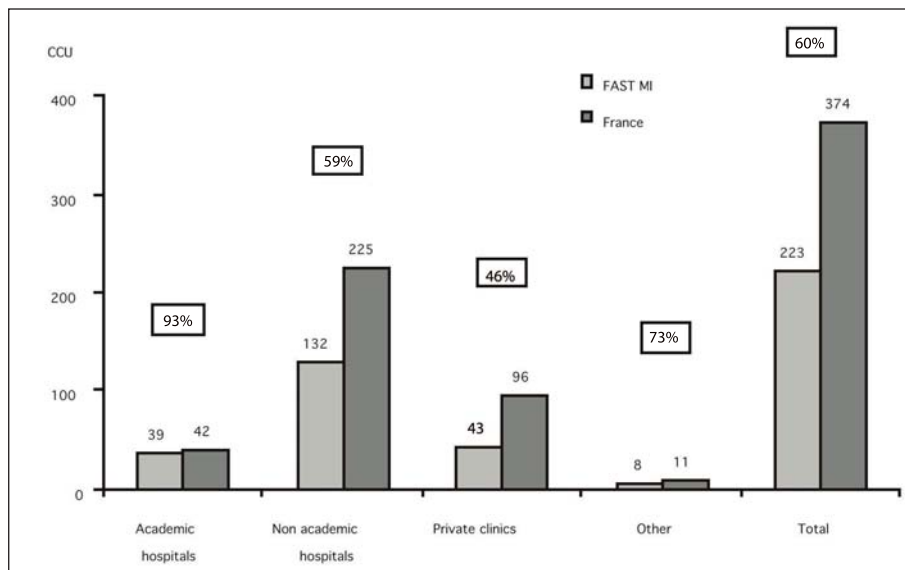


FIG. 3 - Participation of centres according to the type of institution (number and percent).
 FIG. 3 - Participation des centres selon le type d' institution (en nombre et en pourcentage).

patients were more likely to have signs of heart failure at entry (Killip class ≥ 2) and the presenting symptom was more commonly atypical chest pain (table III).

In-hospital diagnostic procedures and reperfusion therapies

Coronary angiography was performed during the initial hospitalization in approximately 80% of the survey cohort (table IV). Percutaneous coronary interventions (PCI) were performed more commonly in patients with Q wave MI, because of the use of primary PCI in this group. Among patients with Q wave MI 36% received no reperfusion therapy, 19% had

TABLE III—CLINICAL PARAMETERS ON ADMISSION ACCORDING TO FINAL DIAGNOSIS

	Q wave MI (n = 1617)	Non Q wave MI (n = 1442)	p
Heart rate ≥ 100 beats/mn (%)	14.7	16.8	NS
Mean SBP (mmHg)	134.9 \pm 27.6	143.3 \pm 28.5	< 0.001
SBP ≥ 140 mmHg	45.0	55.8	< 0.001
Mean DBP (mmHg)	79.4 \pm 17.6	79.9 \pm 16.5	NS
DBP ≥ 90 mmHg	30.3	29.2	NS
Killip class ≥ 2	18.1	28.5	< 0.001
Presenting symptoms			
Typical angina	81.3	69.7	< 0.001
Atypical chest pain	12.6	18.5	< 0.001
Heart failure	7.2	17.3	< 0.001
Syncope	4.3	3.7	NS
Resuscitated cardiac arrest	2.5	0.7	< 0.001
Other	11.0	14.6	0.003
GRACE risk score	173.6	154.8	< 0.001

DBP: diastolic blood pressure; SBP: systolic blood pressure.

pre-hospital thrombolysis, 10% in-hospital thrombolysis, and 35% primary percutaneous coronary interventions. The time from symptom onset to arrival in the CCU was less than three hours for 21.9% of the patients with Q wave MI patients and 14.4% among the non Q wave MI patients.

In-hospital and discharge medical therapy

Over 70% of patients received statin therapy during the hospital stay and 90% up to 95% of patients with MI received anti platelet agents (APA) (Table V). Unfractionated heparin was more commonly used among patients with Q wave MI, whereas low-molecular-weight heparin was more commonly used in the other group. Glycoprotein IIb/IIIa inhibitors were

used in one third of the patients of this survey cohort and more often in the Q wave MI group. Beta adrenergic blockers were commonly used in all groups and ACE-inhibitors were prescribed in approximately one half of the cohort. At discharge beta-adrenergic blockers and angiotensin blocking agents were commonly prescribed. Over 75% of patients received lipid-lowering treatment with statins at discharge. When we analysed medical therapy at discharge based on the final diagnosis, patients with non Q wave MI less often received statins and beta blockers but there was no marked difference for APA, ACE-inhibitors or angiotensin receptor blockers.

In-hospital complications and mortality

When we analysed survival based on the final diagnosis (table IV), the in-hospital mortality rates were 5.8% and 4.9% respectively for patients with Q wave and non-Q wave MI, a difference that was not statistically significant.

TABLE IV—IN HOSPITAL MANAGEMENT

	Q wave MI n = 1617	Non Q wave MI n = 1442	p
Coronary angiography	89.9	78.3	< 0.001
PCI	75.8	50.8	< 0.001
Thrombolysis	29.0	-	
Acute reperfusion therapy			
None	36.1		
Pre hospital thrombolysis	18.8		
Hospital thrombolysis	10.4		
Primary PCI	34.8		

PCI: percutaneous coronary intervention.

TABLE V—MEDICATIONS PRESCRIBED DURING HOSPITAL STAY AND AT DISCHARGE

	48 h		Discharge	
	Q wave MI n = 1617	Non Q wave MI N = 1442	Q wave MI n = 1523	Non Q wave MI N = 1371
Statins	78.0	70.9	81.6	75.1
Beta blockers	72.1	66.0	75.5	69.4
Aspirin	90.7	89.8	88.1	84.5
Clopidogrel	87.8	82.4	80.2	69.7
Any antiplatelet agent	95.8	94.3	91.8	90.0
ACE-I	49.2	42.5	62.3	51.9
ARB	4.4	10.1	4.7	9.5
ACE-I or ARB	52.8	51.3	66.9	61.1
Unfractionated Heparin	44.3	34.4	1.7	2.0
Low molecular weight heparin	57.1	63.8	10.8	9.7
Glycoprotein IIb/IIIa inhibitors	36.9	33.2	-	-
Oral anticoagulants	0.3	0.9	0.7	1.1

ACE-I: angiotensin converting enzyme inhibitors; ARB: angiotensin receptor blockers.

DISCUSSION

The present study may be considered representative of clinical practice in France in view of the participation rate (60%), and geographic recruitment of the patients. In this survey, 52.9% of patients presented with Q wave MI, compared to the 42.3% in the **Euro Heart Survey** [33] and the 43.0% of patients in **ENACT** [34]. This difference is likely due to the fact that only patients admitted to ICUs were included in our registry. Conversely, a substantial percentage of acute coronary syndrome patients in the Euro Heart Survey, and particularly those without ST elevation, were not treated in coronary care units. The results of **FAST MI** can also be used to evaluate compliance with management guidelines. Only 64% of the patients with Q-wave infarction had reperfusion therapy, a figure that stresses the discrepancies between real world observational data and theoretical expectations. Lytic therapy was used in 29% of patients including 19% with pre hospital

thrombolysis and primary angioplasty was used in 35%. Statins were given to over 75% of patients during the initial hospitalization. Antiplatelet agents, ACE-inhibitors and beta blockers were commonly used.

CONCLUSION

The **FAST MI** is the largest survey **hitherto** of MI in France, enrolling 3059 MI patients from 223 centres over a one-month period and a further population of 611 diabetic patients including during the extension phase of the survey. Our results show major differences between Q wave and non Q wave MI and the worse overall profile of non Q wave MI patients, mainly driven by their older age. They also confirm that the results of prospective trials have been largely adopted in current practice, although the rates of prescription of statins or ACE-inhibitors remain somewhat lower than would have been expected.

KEYWORDS: Study design, myocardial infarction (MI), registry, outcome.

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