# Clinical Outcomes at 30 days in the Brazilian Registry of Acute Coronary Syndromes (ACCEPT)

*Luiz Alberto Piva e Mattos[1,2,9], Otávio Berwanger[4,10], Elizabete Silva dos Santos[2], Helder José Lima Reis[3], Edson Renato Romano[4], João Luiz Fernandes Petriz[5], Antônio Carlos Sobral Sousa[7], Fernando C. Neuenschwander[6], Jorge Ilha Guimarães[1], Jadelson Pinheiro de Andrade[1,8]*

*Sociedade Brasileira de Cardiologia[1], Rio de Janeiro; Instituto Dante Pazzanese de Cardiologia[2], São Paulo; Hospital de Clínicas Gaspar Vianna de Belém do Pará[3], Belém; Hospital do Coração/ASS[4], São Paulo; Hospitais da Rede d'Or do Rio de Janeiro[5]; Hospital Vera Cruz[6], Belo Horizonte; Fundação e Hospital São Lucas de Aracajú[7], Sergipe; Hospital da Bahia[8], Salvador; Unidades de Hemodinâmica e Intervenção Cardiovascular Rede D'or / São Luiz - Recife, São Paulo e Santo André[9]; Instituto de Ensino e Pesquisa do Hospital do Coração/ASS[10], São Paulo - Brazil*

## Abstract

**Background: There are few registries documenting clinical practice in Brazilian patients with acute coronary syndrome.**

**Objectives: Demography description, occurrence of major clinical adverse events and comparative analysis in patients submitted or not to an invasive strategy (coronary angiography and myocardial revascularization) in a Brazilian multicenter registry of acute coronary syndrome.**

**Methods: The ACCEPT/SBC registry prospectively collected data on acute coronary syndrome patients from 47 Brazilian hospitals. The current analysis reports the occurrence of major clinical outcomes and according to the performance or not of a procedure for myocardial revascularization at the end of 30 day follow-up.**

**Results: Between August 2010 and December 2011, 2.485 patients were enrolled in this registry. Of these, 31.6% had unstable angina, 34.9% and 33.4% had acute coronary syndrome without and with ST-segment elevation. At 30 days, the performance of a myocardial revascularization procedure was progressively higher according to the severity of clinical presentation (38.7% vs. 53.6% vs. 77.7%, p < 0.001). Cardiac mortality among those submitted or not to myocardial revascularization procedure was 1.0% vs. 2.3% (p = 0.268), 1.9% vs. 4.2% (p = 0.070) and 2.0% vs. 8.1% (p < 0.001), in those with unstable angina, acute coronary syndrome without and with ST-segment elevation, respectively.**

**Conclusions: The prescription of a myocardial revascularization procedure was progressively more frequent according to the severity of clinical presentation; for those treated during acute coronary syndrome without and with ST-segment elevation, there was a trend and significant decrease in mortality rate at 30 day of follow-up, respectively. (Arq Bras Cardiol. 2013;100(1):6-13)**

**Keywords: Acute Coronary Syndrome; Multicenter Studies; Comparative Study.**

## Introduction

Recent data from the World Health Organization (WHO) show that cardiovascular disease, particularly acute myocardial infarction (AMI), are the main cause of mortality and disability in Brazil and worldwide. In Brazil, coronary artery disease was responsible for the occurrence of more than 100,000 deaths in 2011[1-4].

The search for interventions that promote reduction in the incidence of cardiovascular diseases is a constant challenge, whether pharmacological or interventional (CABG), demonstrating their proven benefit in decreasing major cardiovascular events[5-10].

Previous registries have shown that the use of invasive and pharmacological interventions in the setting of acute coronary syndromes (ACS) are yet the meet ideal standards, with gaps and missed opportunities for treatment, based on the current guideline recommendations[11-17].

To date, there are no Brazilian registries documenting clinical practice in patients with ACS in our country at federal level, with robust methodology, concerning the analysis of multiple clinical variables, such as prescription drug verification and CABG performance, reinforced by the assessment of late clinical follow-up[18-21].

Our objective is to report the results at the end of the first 30 postoperative days in patients enrolled in a Brazilian registry dedicated to the analysis of ACS, explaining the demographic profile of these patients, the occurrence of severe clinical outcomes and comparative analysis between those submitted or not to invasive strategy.

## Methods

The ACCEPT (*Acute Coronary Care Evaluation of Practice Registry*) registry is a project designed and managed by the Brazilian Cardiology Society (SBC). It is a prospective, voluntary, multicenter study created in January 2010,

**Mailing Address: Dr. Luiz Alberto Piva e Mattos •**
Av. Jandira, 550, ap. 121, Moema. Postal Code 04080-003, São Paulo, SP – Brazil
E-mail: pivmattos@uol.com.br
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logistically structured in the first half of that year, which started collecting patients from August of the same year. We analyzed the patients enrolled up to December 2011, with full completion of the dedicated electronic registration form (admission and after 30 days).

For this purpose, 47 research centers joined the registry, seeking to encompass the greatest possible territorial extent, representing all regions of Brazil, joining public hospitals (Unified Health System - SUS), health insurance companies (National Health Agenda - ANS) and private hospitals.

These were joined through the use of two criteria: invitation from institutions that had already been trained and active search for new centers, with the invitation being announced at the electronic address of SBC (www.cardiol.br). The electronic invitation was shown for 30 days. The criteria for participation were restricted to evidence of available research ethics committee and capacity to perform the clinical follow-up of patients for up to one year, in addition to the existence of patients who met the registry's clinical scope. At the end of this process of collection and confirmation of interest, 18 new centers were accepted, totaling 38% of all participating centers.

The rationale, methodology, organization and committees of this registry have been previously detailed[22].

We included patients in the presence of an ACS, measuring variables related to demographic characteristics, as well as the prescription of evidence-based interventions.

Eligible patients were those whose care unit physician suspected a diagnosis of ACS and planned to start treatment for this condition. Patient inclusion and exclusion criteria determined by the protocol are shown in Table 1. Patients admitted with a diagnosis of chest pain to be clarified with suspected coronary origin allocated in this registry, but which was not confirmed after the initial diagnostic investigation, were excluded from it.

In summary, we included patients with unstable angina (UA), acute coronary syndrome without ST-segment elevation (ACS-NSTE) and with ST-segment elevation (ACS-STE).

**Chart 1 – Inclusion and exclusion criteria for participation in the ACCEPT registry**

| INCLUSION CRITERIA |
|---|
| Acute coronary syndrome (ACS) without ST-segment elevation<br>Ischemic symptoms of suspected ACS without ST-segment elevation defined as: medical history compatible with the new manifestation or worsening of chest pain characteristic of ischemia occurring at rest or after minimal exertion (10-minute duration) |
| *And at least one of the following items:*<br>c) ECG alterations compatible with new ischemia (ST depression of at least 1 mm, or transient ST elevation, or ST elevation of 1 mm or less, or T wave inversion > 3 mm or at least two contiguous leads or<br>d) Elevated cardiac enzymes (for instance, CK-MB or biomarkers (Troponin I or T) above the upper limit of normality. |
| Acute coronary syndrome (ACS) with ST-segment elevation<br>Showing signs or symptoms of AMI for at least 20 minutes. With defined ECG alterations, compatible with ACS, with persistent ST-segment elevation (> 2 mm in two contiguous precordial leads or > 1 mm in at least two limb leads) or new left bundle-branch block with Q wave in two contiguous leads. |
| **EXCLUSION CRITERIA** |
| Patients transferred from other units with more than 12 hours after pain onset. |

The analyzed clinical outcomes were cardiovascular mortality, reinfarction and cerebrovascular accident (CVA) [22].

The verification of the occurrence of the mentioned clinical outcomes was made after hospital admission and at 30 days. The expectation of future clinical follow-up will be concluded by the end of 12 months.

All centers received protocol-dedicated and electronic system training, in person or by phone, supported by the coordination team. The quality control of the study data was attained through several strategies, such as the use of dedicated electronic forms for collection of clinical variables, centralized verification of the collected variables, in-person monitoring of the five centers with the largest number of recruited patients and random choice of 20% of centers for in-person monitoring.

Biannual meetings were carried out by invitation and included all main investigators of this registry.

The protocol was approved by the Research Ethics Committee (REC) of Hospital do Coração de São Paulo-SP (HCor/ASS) on 06.22.2010 under registration number 117/2010 and subsequently, each participating center also had the approval of its own local research ethics committee (REC). All patients signed an informed consent form and the trial was carried out according to the principles of the current review of the Declaration of Helsinki and Good Clinical Practice Guidelines, in its latest version, and the 196/96 Decree. Additionally, it will conform to Brazil's local legal and regulatory requirements[22].

This registry is the property of the Brazilian Society of Cardiology - SBC, using its own financial resources dedicated to this purpose and implementation. The Instituto de Ensino e Pesquisa do Hospital do Coração de São Paulo (IEP/HCor) was hired to operationalize the implementation of this registry under the coordination of SBC.

Statistical analysis and sample size calculation: continuous variables with normal and asymmetric distribution were described as median (interquartile range) and mean ± standard deviation, respectively. Normality was assessed by visual inspection of histograms. Categorical variables were described by absolute and relative frequencies. Proportions were compared between two independent groups using Fisher's exact test. When comparing proportions between three or more groups, the Chi-square test or the Fisher-Freeman-Halton (exact) test was applied followed by multiple comparisons, according to permutation tests, when appropriate. Means were compared between two groups according to Student's *t* test for independent samples. Means between three or more groups were compared using one-way analysis of variance (ANOVA), followed by multiple comparisons according to Tukey's method, when appropriate.

Medians were compared between two independent groups according to the Mann-Whitney test. When comparing three or more groups, the Kruskal-Wallis test was used followed by Dunn's multiple comparison, when appropriate. The SAS 9.3 (Statistical Analysis System, Cary, NC) software program was used for statistical analysis of data. P values are two-sided and p values $< 0.05$ were considered statistically significant.

In order to detect a proportion of 50% (for example, use of statins at discharge or patients that received reperfusion), considering a sampling error of 2%, a 5% alpha and 90% of statistical power, it would be necessary to include at least 2,401 patients. This sample size will be sufficient to meet the primary study objectives, which is feasible within the first year of recruitment. There are plans to extend the ACCEPT registry to be continued until December 2013, thus including a higher number of patients, enabling further analysis and inferences about independent predictors of major clinical events.

## Results

Between August 2010 and December 2011, 2584 patients were enrolled in this national registry, of which 99 (3.8%) had chest pain to be assessed and were excluded from the clinical follow-up as they did not meet the inclusion criteria of the study.

Thus, 2485 patients with ACS had confirmed evidence of the inclusion criteria and were enrolled in this registry, in 47 Brazilian hospitals. The distribution of the data collection according to the federal Brazilian region was respectively, southeast (n = 1.499 / 60.3%), northeast (n = 567/22.8%), South (n = 353/14.2%) and Midwest (n = 66/2.7%).

Of these 2485 patients, ten (0.4%) did not have complete clinical information at 30 days for several reasons (unsolved form filling out error, loss to follow-up and/or loss of documents and/or transfer to other hospitals), totaling 2,475 patients with complete analysis of clinical outcomes by the end of the first 30 days to be analyzed.

The care assistance of these patients was carried out through SUS (n = 1.228/49, 6%), ANS (n = 1.143/46, 2%) and private hospitals (n = 104/4, 2%), respectively.

The clinical profile of the patients showed the inclusion of two-thirds of high-risk patients (ACS-NSTE and ACS-STE), a third of diabetics, around 90% with evidence of at least one risk factor, and half with past myocardial revascularization, either percutaneous or surgical (Table 1).

The prescription-based on drugs recommended by current guidelines, adopted shortly after admission and after 30 days, is summarized in Table 2. At admission, over 80% of the patients received triple antithrombotic/antiplatelet therapy (aspirin/heparin and P2Y12 inhibitor) and a similar number received beta-blockers and statins. Upon discharge we observed the same pattern, with a reduction in the prescription of P2Y12 inhibitor, progressively lower according to the lesser severity of ACS (58.3%, 67.6% and 83.3%, p < 0.001), UA, ACS-NSTE and ACS-STE, respectively.

**Table 1 – Clinical profile of the 2,475 patients included in the ACCEPT registry**

| Clinical syndrome | Unstable Angina | ACS-NSTE | ACS-STE | p value |
|---|---|---|---|---|
| | N (%) | N (%) | N (%) | |
| Total | 784 (31,6%) | 864 (34,9%) | 827 (33,4%) | |
| Mean age (years) | 64±12 | 65±12 | 61±12 | <0.001 |
| Minor | 32 | 24 | 25 | |
| Major | 95 | 94 | 86 | |
| Male sex | 465 (59.3%) | 613 (70.9%) | 600 (72.6%) | <0.001 |
| Risk factors | | | | |
| Diabetes *mellitus* | 250 (31.9%) | 319 (36.9%) | 194 (23.5%) | <0.001 |
| Arterial Hypertension | 627 (80.0%) | 708 (81.9%) | 602 (72.8%) | <0.001 |
| Dyslipidemia | 426 (54.3%) | 536 (62.0%) | 434 (52.4%) | <0.001 |
| Ex-smoker | 181 (23.1%) | 182 (21.0%) | 260 (31.4%) | <0.001 |
| Current Smoker | 172 (21.9%) | 173 (20.0%) | 207 (25%) | <0.001 |
| BMI ≥ 25 | 266 (33.9%) | 317 (36.7%) | 289 (34.9%) | 0.001 |
| One risk factor present | 697 (88.9%) | 760 (87.9%) | 752 (90.9%) | 0.351 |
| First clinical manifestation of CAD | 376 (47.9%) | 436 (50.4%) | 629 (76.0%) | <0.001 |
| Previous events | | | | |
| CVA | 3 (0.4%) | 4 (0.5%) | 2 (0.2%) | 0.262 |
| CHF | 87 (11.0%) | 91 (10.5%) | 54 (6.5%) | 0.001 |
| AMI | 271 (34.5%) | 244 (28.2%) | 153 (18.5%) | <0.001 |
| Coronary angioplasty | 278 (35.5%) | 301 (34.8%) | 149 (18.0%) | <0.001 |
| Revascularization surgery | 120 (15.3%) | 128 (14.9%) | 43 (5.2%) | <0.001 |

*ACS: acute coronary syndrome; NSTE: non-ST segment elevation; STE: ST-segment elevation; CAD: coronary artery disease; CVA: cerebrovascular accident; CHF: congestive heart failure; BMI: body mass index; AMI: acute myocardial infarction.*

**Table 2 – Prescription based on medications recommended in current clinical guidelines adopted right after hospital admission and at the end of 30 days**

| Clinical syndrome | Unstable angina | ACS-STE | ACS-NSTE | p value |
|---|---|---|---|---|
| | N (%) | N (%) | N (%) | |
| Total | 784 (31.6%) | 864 (34.9%) | 827 (33.4%) | |
| Hospital admission | | | | |
| Aspirin | 758 (96.7%) | 843 (97.6%) | 814 (98.4%) | 0.075 |
| P2Y12 Inhibitor | 651 (83.0%) | 763 (88.3%) | 787 (95.2%) | < 0.001 |
| Heparins | 670 (85.5%) | 807 (93.4%) | 728 (88.0%) | < 0.001 |
| GP IIb/IIIa Inhibitors | 14 (1.8%) | 70 (8.1%) | 159 (19.2%) | < 0.001 |
| Beta-blocker | 638 (81.4%) | 699 (80.9%) | 649 (78.5%) | 0.286 |
| Angiotensin-converting enzyme inhibitor | 528 (67.3%) | 573 (66.3%) | 581 (70.3%) | 0.201 |
| Statins | 709 (90.4%) | 783 (90.6%) | 761 (92.0%) | 0.470 |
| Fibrinolytics | 3 (0.4%) | 2 (0.2%) | 107 (12.9%) | < 0.001 |
| **At 30 days** | **770** | **838** | **799** | |
| Aspirin | 707 (91.8%) | 809 (96.5%) | 774 (96.8%) | 0.010 |
| P2Y12 Inhibitor | 449 (58.3%) | 567 (67.6%) | 666 (83.3%) | < 0.001 |
| Heparins | 0 | 0 | 0 | |
| GP Iib/IIIa Inhibitors | 0 | 0 | 0 | |
| Beta-blocker | 584 (75.8%) | 654 (78.0%) | 670 (83.8%) | 0.003 |
| Angiotensin conversion enzyme inhibitor | 463 (60.1%) | 510 (60.8%) | 562 (70.3%) | < 0.001 |
| Statins | 685 (88.9%) | 766 (91.4%) | 763 (95.4%) | 0.003 |
| Fibrinolytics | 0 | 0 | 0 | |

*ACS: acute coronary syndrome; NSTE: non-ST segment elevation; STE: ST-segment elevation.*

Among the participating centers in the ACCEPT registry, 43 (91%) reported the availability of hemodynamics service and interventional cardiology. Table 3 shows the prescription of invasive strategies (angiography and myocardial revascularization) in these patients.

Eight hundred and twenty-seven patients presented with an ACS-STE (AMI) and reperfusion therapies were used in 729 (88%) of them, and fibrinolysis or primary coronary angioplasty (Tables 3 and 4). When analyzing the prescription of reperfusion therapies for AMI, there are distinct and decreasing percentages, according to the Brazilian federal region: 87.6%, 83.3%, 82.3%, 74.5% and 67.4 %, ($p < 0.001$), for the South, Southeast, Midwest, Northeastern and Northern Brazilian states, respectively.

As the severity of the clinical presentation of these three components of the ACS increased, there was a progressive increase in the prescription of invasive strategies, either coronary angiography (69.1%, 83.0% and 89.0%, $p < 0.001$), as well as myocardial revascularization (38.7%, 53.6% and 77.7%, $p < 0.001$) unstable angina, ACS-NSTE and ACS-STE, respectively (Table 3).

**Table 3 – Invasive strategy prescription (angiography and myocardial revascularization) at 30 days**

| Clinical syndrome | Unstable Angina | ACS-NSTE | ACS-STE | p value |
|---|---|---|---|---|
| | N (%) | N (%) | N (%) | |
| Total | 784 (31,6%) | 864 (34,9%) | 827 (33,4%) | |
| Coronary angiography | 542 (69.1%) | 717 (83.0%) | 736 (89.0%) | < 0.001 |
| Delay | 7.2±5.1 days | 3.4±2.2 days | 125±90 minutes | < 0.001 |
| Coronary angioplasty | 256 (32.7%) | 380 (44.0%) | 622 (75.2%) | < 0.001 |
| Procedural success * | 248 (97.1%) | 370 (97.3%) | 599 (96.3%) | 0.260 |
| Coronary stent | 245 (95.7%) | 366 (96.3%) | 593 (95.3%) | 0.315 |
| Pharmacological stent | 95 (38.7%) | 138 (37.5%) | 101 (16.9%) | < 0.001 |
| Myocardial revascularization surgery | 48 (6.1%) | 83 (9.6%) | 21 (2.5%) | < 0.001 |
| Total sum of myocardial revascularization surgeries | 304 (38.7%) | 463 (53.6%) | 643 (77.7%) | < 0.001 |

*ACS: acute coronary syndrome; NSTE: non-ST segment elevation; STE: ST-segment elevation.*
** = anterograde TIMI flow class 3 and residual stenosis < 30%.*

**Table 4 – Occurrence of major clinical outcomes at 30 days**

| Clinical syndrome | Unstable angina | ACS-NSTE | ACS-STE | p value |
|---|---|---|---|---|
| | N (%) | N (%) | N (%) | |
| Total | 784 (31,6%) | 864 (34,9%) | 827 (33,4%) | |
| Cardiac mortality | 14 (1.8%) | 26 (3.0%) | 28 (3.4%) | 0.111 |
| Reinfarction | 29 (3.7%) | 19 (2.2%) | 14 (1.7%) | 0.164 |
| Cerebrovascular accident | 3 (0.4%) | 7 (0.8%) | 5 (0.6%) | 0.584 |
| Submitted to myocardial revascularization | 304 (38.7%) | 463 (53.5%) | 643 (77.7%) | |
| Cardiac mortality | 3 (1.0%) | 9 (1.9%) | 13 (2.0%) | 0.527 |
| Reinfarction | 9 (3.0%) | 3 (0.7%) | 13 (2.0%) | 0.312 |
| Cerebrovascular Accident | 1 (0.3%) | 4 (0.9%) | 3 (0.5%) | 0.312 |
| Not submitted to myocardial revascularization | 480 (61,3%) | 401 (46,5%) | 184 (22,3%) | |
| Cardiac mortality | 11 (2.3%) | 17 (4.2%) | 15 (8.1%) | 0.004 |
| Reinfarction | 20 (4.2%) | 16 (3.4%) | 1 (0.5%) | <0.001 |
| Cerebrovascular Accident | 2 (0.4%) | 3 (0.7%) | 2 (1.1%) | 0.073 |

*ACS: acute coronary syndrome; NSTE: non-ST segment elevation; STE: ST-segment elevation.*

The preferred myocardial revascularization procedure in these patients was percutaneous coronary intervention (32.7%, 44.0% and 75.2%, p < 0.001), unstable angina, ACS-NSTE and ACS-STE, respectively, with rates > 95% of coronary stent use (Table 3).

Clinical outcomes were measured cumulatively at the end of the first 30 days of evolution as shown in Tables 4 and 5, being fully analyzed and compared among patients who underwent or not myocardial revascularization procedure.

Among patients with UA, being submitted to CABG did not alter the occurrence of cardiovascular outcomes at the end of the first month. When there was evidence of an ACS-NSTE, there was a trend to reduced mortality and significantly reduced incidence of reinfarction among those submitted or not to a revascularization procedure, respectively (mortality rate = 1.9% vs. 4.2%, p = 0.070 and reinfarction = 0.7% vs. 3.4%, p = 0.008) (Table 5).

Patients with ACS-STE exhibited significant reduction in mortality and reinfarction when submitted to reperfusion and CABG strategies (mortality = 2.0% *versus* 8.1%; p < 0.001 and reinfarction = 0.5% *versus* 2.0%; p < 0.001) (Table 5).

**Table 5 – Occurrence of major clinical outcomes by the end of the first 30 days in patients submitted or not to CABG**

| | Submitted to myocardial revascularization | Not submitted to myocardial revascularization | p value |
|---|---|---|---|
| Total (N) | 1.410 | 1.065 | |
| Unstable Angina | 304 | 480 | |
| Mortality | 3 (1.0%) | 11 (2.3%) | 0.268 |
| Reinfarction | 9 (3.0%) | 20 (4.2%) | 0.441 |
| Cerebrovascular Accident | 1 (0.3%) | 2 (0.4%) | 1.000 |
| ACS-NSTE | 463 | 401 | |
| Mortality | 9 (1.9%) | 17 (4.2%) | 0.070 (RR 0.6389; IC 95% 0.3753 - 1.088) |
| Reinfarction | 3 (0.7%) | 16 (3.4%) | 0.008 (RR 1.592 IC 95% 1.297 - 1.954) |
| Cerebrovascular accident | 4 (0.9%) | 3 (0.7%) | 1.000 |
| ACS-STE | 643 | 184 | |
| Mortality | 13 (2.0%) | 15 (8.1%) | <0.001 (RR 0.5888 95%CI 0.3949 - 0.8781) |
| Reinfarction | 13 (2.0%) | 1 (0.5%) | <0.0001 (RR 0.09045 95%CI 0.01367 – 0.5984) |
| Cerebrovascular Accident | 3 (0.5%) | 2 (1.1%) | 0.309 |

*ACS: acute coronary syndrome; NSTE: non-ST segment elevation; STE: ST-segment elevation.*

## Discussion

The ACCEPT registry is the first dedicated clinical research created and fully managed by SBC, consisting in the initial double research project, components of the "Brazilian Cardiovascular Records" [22,23].

This project was started in January 2010. The preparation has evolved in defined stages, from hiring a research institute for patient and database management, to the preparation of protocols, research group meetings, training and submission to ethics committees, requiring a six-month period. Recruitment began in August 2010 and achieved the desired objective by the end of 2011. The second phase of ACCEPT is still ongoing with the goal of duplicating this sample shown here. The temporal organization chart was completed accurately and with no evidence of delay in this first phase[22].

The initial objectives of this project were achieved, namely to identify, at federal level, the clinical practice of Brazilian cardiology dedicated to the diagnosis and treatment of ACS, showing what we do and how we do to meet our population's needs.

Registries are photographs, instantaneous, or long-exposure, focused on viewing certain aspects of medical practice at a certain moment in time. One goal of registries is to identify inaccuracies or clinical practices that are in disagreement with the main recommendations of medical guidelines and then demand corrective measures, through the updating of medical knowledge and by improving care services to the target population. Therefore, the analysis of the results is related to the participating centers, the existing health policies and standardization of medical practice[11-17].

Several similar researches have been previously reported. The sum of the NCDR/USA, GRACE and CRUSADE registries, for instance, contains a sampling of 400,000 patients. The increase of this sample will promote the capacity to provide stronger conclusions and guidelines regarding the current clinical practice in the places where the data were collected [11-14].

A direct comparison between registries lacks consistency, due to the aforementioned reasons. For instance, the registries cited before showed the recruitment of patients considered at higher risk when compared with those included in controlled trials, with a consequent impact on the increase in the occurrence of severe clinical outcomes. In ACCEPT, there is a profile of moderate to high risk, considering the presence of more than 70% of patients with higher-risk ACS. However, the occurrence of severe outcomes was decreased, showing a percentage closer to those reported by controlled studies. This evidence only confirms that each registry has its own identity, directly related to the service profile of the participating institutions[5-17].

The participating centers in the ACCEPT registry can be labeled as tertiary, that is, capable of performing highly complex cardiovascular procedures, as more than 90% of them provided, hemodynamics service and interventional cardiology care, as well as cardiovascular surgery to their patients. Therefore it is expected that they had a positive impact on the decreased occurrence of severe outcomes associated with an ACS diagnosis[5-10].

The tertiary qualification of these institutions was shown by the prescription of drugs recommended by evidence-based guidelines, with a majority use of over 80% of the triad aspirin, P2Y12 inhibitors and heparin, used to treat the target atherothrombotic episode. Similarly, statins and beta-blockers were widely prescribed and it is possible to consider the medical treatment offered to these patients as appropriate, in line with current recommendations. Considering the main offer of interventional cardiology treatments, the percentage of reperfusion therapy use with fibrinolytics was low - less than 15%. As a caveat that merits further correction is the reduction in the prescription of a P2Y12 inhibitor at hospital discharge, especially in patients with UA and ACS-NSTE, emphasizing the need to strengthen the consolidated evidence from medical guidelines (prescription for 12 months).

Consistent with prior information, we observed that the prescription of coronary reperfusion therapies is not yet absolute, with loss of treatment opportunities in little more than 20% of these infarcted individuals, evidence that will require future corrective measures at multidisciplinary and management level[11,16-19].

As ACS severity increased, UA up to ACS-STE, the prescription of the so-called invasive strategy (emergency coronary angiography/early with effective myocardial revascularization) increased and was performed faster, according to the current recommendations[5-10].

The most robust information in this 30-day analysis of the first phase of the ACCEPT registry is to reconfirm the findings of previously reported by the aforementioned registries as well as clinical trials, namely, that the prescription of the invasive strategy and implementation of early myocardial revascularization, mostly by percutaneous route (89.2%) resulted in a positive impact, preventing major events. In patients with the diagnosis of ACS-NSTE and STE, it was observed a trend and reduction of cardiovascular mortality, respectively, and the reduction of the rate of reinfarction in both syndromes. A larger sample may further confirm the significant reduction in mortality in those patients with ACS-NSTE [-10].

In this 30-days analysis, the rates of occurrence of whole outcomes are decreased, closer to the reality of controlled trials than aforementioned world registries, considering the evidence of mortality in those patients treated during acute myocardial infarction, < 4 %. The observed results can be considered as excellence standard for the Brazilian reality, as it shows retrospective studies[19,21].

## Limitations

The expansion of these results to the Brazilian reality in full should not be effectively carried out, being valid for the participating centers.

As we seek to build a qualified registry, we excluded centers of lower complexity in care (primary), primarily from the existence of a registered Postal Code. The search for evidence of poor clinical practice in Brazilian daily cardiology, at relevant percentages, will only be effectively attained by a focused census or distinct strategy.

The ACCEPT registry will also seek to incorporate a larger number of interested centers located in the Midwest.

The present study aimed to analyze this scope reported herein. Further analyzes will detail each major clinical component of the ACS.

A comparative analysis of the ACCEPT registry with other previously published registries (international ones) must also be made with caution, given the temporal, geographical, social and economic peculiarities included by each of these studies.

## Conclusions

During a 17-month period, the ACCEPT registry enrolled patients who received the diagnosis of ACS, showing a clinical profile of moderate to high risk in two-thirds of this sample (ACS-NSTE and ACS-STE). It is noteworthy in the demographics of these patients, the presence of one third of diabetics, more than two thirds of hypertensive patients, a quarter of smokers and one third of overweight and/or obese patients. The presence of at least one cardiovascular risk factor was proven in approximately 90% of this cohort.

The occurrence of serious cardiovascular outcomes was progressively increased according to the severity of ACS, from AI to ACS- STE.

The prescription of CABG was progressively more frequent according with the clinical presentation severity and patients treated in the presence of ACS-NSTE and ACS-STE had a trend to and lower mortality, respectively, and lower rates of reinfarction, in both. Reperfusion therapies were used in most patients with ACS-STE, although not full-blown.

The ACCEPT registry continues the recruitment of patients, aiming at having 5,000 patients with ACS in Brazil until the end of the first half of 2013 (Phase II). The objective of the registry is to obtain the 12-month clinical follow-up of this cohort of patients. The development and implementation of this goal can be monitored on a weekly basis by accessing SBC's electronic address at (www.cardiol.br).

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**Participating research centers (city/state), main investigator and number of patients included per center:**

Instituto Dante Pazzanese de Cardiologia (São Paulo, SP): Elisabete Silva dos Santos (318); Hospital de Clínicas Gaspar Vianna (Belém, PA): Helder José Lima Reis (154); Hospital do Coração de São Paulo (São Paulo, SP): Edson Renato Romano (151); Hospitais da Rede d'Or do Rio de Janeiro (Rio de Janeiro, RJ): João Luiz Fernandes Petriz (148); Hospital São Lucas (Aracajú, SE): Antônio Carlos Sobral Sousa (140); Hospital Vera Cruz (Belo Horizonte, MG): Fernando Neuesnchwander

(137); Hospital Regional de Presidente Prudente (Presidente Prudente, SP): Margarete Assad Cavalcente (135); Hospital de Clínicas de Porto Alegre (Porto Alegre, RS): Carisi Polanczyk (120); Santa Casa de Marilia (Marilia, SP): Pedro Beraldo de Andrade (88); Instituto Cardiopulmonar (Salvador, BA): Luiz Eduardo Ritt (73); Hospital de Terapia Intensiva (Teresina, PI): Paulo Márcio Sousa Nunes (60); Hospital Vera Cruz (Campinas, SP): Silvio Giopatto (58); Instituto de Cardiologia de Santa Catarina (São José, SC): Ilnei Pereira Filho (57); Hospital São Vicente (Passo Fundo, RS): Hugo Vargas Filho (56); Hospital São Paulo (São Paulo, SP): Antônio Carlos C. Carvalho (52); Santa Casa de Votuporanga (Votuporanga, SP): Mauro Esteves Hernandes (49); Hospital Madre Teresa (Belo Horizonte, MG): Roberto Luiz Marino (44); Sociedade Hospital Angelina Caron (Campina Grande do Sul, PR): Dalton Bertolim Precoma (43); Hospital Lifecenter (Belo Horizonte, MG): Estevão Lanna Figueiredo (43); Hospital do Coração do Cariri (Barbalha, CE): Francisco Carleial Feijó de Sá (42); Hospital do Coração de Poços de Caldas (Poços de Caldas, MG): Frederico Toledo Campos Dall'Orto (42); Hospital Santa Izabel (Salvador, BA): Gilson Soares Feitosa Filho (37); Hospital Santa Paula (São Paulo, SP): Otávio Celso Gebara (35); Hospital Regional do Mato Grosso do Sul (Campo Grande, MS): Christiano Pereira (35); Hospital Pró-Cardíaco (Rio de Janeiro, RJ): Luiz Antônio Almeida Campos (33); Hospital Universitário Francisca Mendes (Manaus, AM): Mariano Terrazas (31); Hospital Bandeirantes (São Paulo, SP): Hélio Castelo (30); Instituto Estadual de Cardiologia Aloysio de Castro (Rio de Janeiro, RJ): Roberto Bassan (30); Hospital do Coração do Brasil (Brasília, DF): Alberto Gomes Fonseca (29); Santa Casa de Porto Alegre (Porto Alegre, RS): Paulo Ernesto Leães (26); Hospital Santa Rita (Maringá, PR): Raul D'Aurea Mora Júnior (26); Centro Hospitalar Unimed (Joinville, SC); Hospital Sírio Libanês (São Paulo, SP): Roberto Kalil Filho (21); Hospital Universitário São Francisco (Bragança Paulista, SP): Murilo de Oliveira Antunes (20); Instituto de Moléstias Cardiovasculares (São José do Rio Preto, SP): Gilmar Valdir Greque (16); Hospital Estadual e Pronto Socorro João Paulo II (Porto Velho, RO): Sérgio de Paulo Melo (15); Hospital Mãe de Deus (Porto Alegre, RS): Euler Manenti (11); Instituto de Cardiologia de Uruguaiana (Uruguaiana, RS): Sydnei Campodonico Filho (11); Real Hospital Português (Recife, PE): Sérgio Montenegro (9); Hospital Beneficiência Portuguesa (São José do Rio Preto, SP): Gilmar Valdir Greque (7); Hospital da Cidade (Salvador, BA): Marcelo S. Teixeira (6); Hospital de Base da Sétima Região (Baurú, SP): Adriana F. Daher Berbel (5); Hospital Santa Izabel (Blumenau, SC): Sérgio L. Zimmermann (4); Instituto Nacional de Cardiologia (Rio de Janeiro, RJ): Marco Antônio de Mattos (4); Instituto do Coração do Triangulo Mineiro (Uberlandia, MG): Roberto Botelho (4); Hospital Prontocor (Rio de Janeiro, RJ): Paulo Henrique Godoy (3) and Instituto de Cardiologia do Distrito Federal (Brasília, DF): Núbia W. Vieira (2).

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