

# Changes in the Population Profile and Outcomes of Percutaneous Coronary Intervention in the Angiocardio Registry

Marcelo Mendes Farinazzo<sup>1</sup>, Marcelo José de Carvalho Cantarelli<sup>2</sup>, Hélio J. Castello Jr<sup>3</sup>, Rosaly Gonçalves<sup>4</sup>, Silvio Gioppato<sup>5</sup>, João Batista de Freitas Guimarães<sup>6</sup>, Evandro Karlo Pracchia Ribeiro<sup>7</sup>, Julio Cesar Francisco Vardi<sup>8</sup>, Higo Cunha Noronha<sup>9</sup>, Fabio Peixoto Ganassin<sup>10</sup>, Leonardo Cao Cambra de Almeida<sup>11</sup>, Ednelson Cunha Navarro<sup>12</sup>, Thomas Borges Conforti<sup>13</sup>

## ABSTRACT

**Background:** Technological developments have enabled the expansion of percutaneous coronary intervention (PCI) indications for more challenging clinical and angiographic scenarios. Our objective was to evaluate the results of PCI in two different periods in the past 6 years. **Methods:** This was a multicenter registry including 6,288 consecutive patients treated by PCI, who were divided according to different treatment periods: 2006 to 2008 (P1; n = 1,779) and 2009 to 2012 (P2; n = 4,509). We intended to compare the rates of in-hospital major adverse cardiac and cerebrovascular events (MACCE) and identify their predictors. **Results:** P2 patients were younger and had a higher prevalence of smoking and diabetes. These patients had a greater rate of multivessel, thrombotic and bifurcation lesions. The number of diseased vessels per patient was higher in the P2 Group, as well as the number of stents per patient, and the use of drug-eluting stents. MACCE was more frequent in P2 patients (2.5% vs. 3.5%; P = 0.04), due to periprocedural myocardial infarction (1.7% vs. 2.6%; P = 0.05), and there were no differences in terms of death (1.0% vs. 1.0%; P = 0.87), stroke (0.2% vs. 0.1%; P = 0.47) or emergency coronary artery bypass grafting (0.1% vs. 0; P = 0.68). Age (odds ratio – OR – 1.02; 95% confidence interval – CI 95% – 1.00-1.05; P = 0.04) and Killip III/IV (OR = 6.0, 95% CI; 3.3-10.9; P < 0.01)

## RESUMO

### Mudanças no Perfil Populacional e Resultados da Intervenção Coronária Percutânea do Registro Angiocardio

**Introdução:** A evolução tecnológica tem permitido ampliar a indicação da intervenção coronária percutânea (ICP) para cenários clínicos e angiográficos mais desafiadores. Nosso objetivo foi avaliar os resultados da ICP em dois diferentes períodos, nos últimos 6 anos. **Métodos:** Registro multicêntrico no qual 6.288 pacientes consecutivos tratados por ICP foram divididos por períodos de tratamento: 2006 a 2008 (P1; n = 1.779) e 2009 a 2012 (P2; n = 4.509). Buscamos comparar as taxas de eventos cardíacos e cerebrovasculares adversos maiores (ECCAM) hospitalares e identificar seus preditores. **Resultados:** Pacientes do Grupo P2 mostraram ser mais jovens, com maior prevalência de tabagismo e diabetes. Esses pacientes mostraram maior acometimento de múltiplos vasos, maior número de lesões trombóticas e lesões em bifurcações. A relação de vasos tratados/paciente foi maior no Grupo P2, assim como a relação stent/paciente e a utilização de stents farmacológicos. ECCAM foi mais frequente no Grupo P2 (2,5% vs. 3,5%; P = 0,04), às custas do infarto periprocedimento (1,7% vs. 2,6%; P = 0,05), não havendo diferenças quanto a óbito (1,0% vs.

<sup>1</sup> Trainee cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>2</sup> Doctor. Interventionist Cardiologist and coordinator of the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>3</sup> Master. Interventionist Cardiologist and coordinator of the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>4</sup> Master. Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Rede D'Or São Luiz – Unidade Anália Franco. São Paulo, SP, Brazil.

<sup>5</sup> Master. Interventionist Cardiologist and coordinator of the Hemodynamics and Interventional Cardiology Service of Hospital Vera Cruz. Campinas, SP, Brazil.

<sup>6</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>7</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>8</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>9</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Regional do Vale do Paraíba. Taubaté, SP, Brazil.

<sup>10</sup> Trainee Physician at the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>11</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Bandeirantes. São Paulo, SP, Brazil.

<sup>12</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Regional do Vale do Paraíba. Taubaté, SP, Brazil.

<sup>13</sup> Interventionist Cardiologist at the Hemodynamics and Interventional Cardiology Service of Hospital Vera Cruz. Campinas, SP, Brazil.

**Correspondence to:** Marcelo Mendes Farinazzo. Hospital Bandeirantes – R. Galvão Bueno, 257 – Liberdade – São Paulo, SP, Brazil – CEP 01506-000

E-mail: mfarinazzo@cardiol.br.

Received on: 6/27/2013 • Accepted on: 9/4/ 2013

were the variables that best explained the presence of MACCE.

**Conclusions:** In this large cohort, substantial changes occurred in the characteristics of patients treated by PCI in the last 6 years. This more complex scenario was associated to a slight increase of periprocedural myocardial infarctions, but not to other in-hospital clinical adverse events.

**DESCRIPTORS:** Coronary artery disease. Myocardial infarction. Percutaneous coronary intervention. Health profile. Treatment outcome. Registries.

## INTRODUCTION

Since the performance of the first balloon-catheter angioplasty, in 1977, at Andreas Gruentzig at Zurich University,<sup>1</sup> percutaneous coronary intervention (PCI) has advanced significantly. Over the past 20 years, the development of materials, image acquisition, and technical improvement has allowed excellent results, establishing the percutaneous intervention as the first-line treatment in acute myocardial infarction (AMI) with ST-segment elevation,<sup>2,3</sup> which can be indicated for all clinical forms and anatomical variations of patients with coronary artery disease (CAD).<sup>4,6</sup>

The advances in interventional cardiology have promoted a change in the profile of patients undergoing percutaneous therapy. Currently, PCI is increasingly used in patients with more comorbidities and more complex CAD.<sup>4,5,7</sup>

The change in the clinical profile of patients over the years can influence the outcomes after PCI in randomised clinical trials, as well as in registries.<sup>4,8</sup> The aim of the present study was to verify the evolutionary differences of the clinical, angiographic, and procedural profile, as well as in-hospital outcomes of patients undergoing PCI in the last six years of the Angiocardio Registry.

## METHODS

### Population

From August 2006 to October 2012, 6,288 consecutive patients underwent PCI at the centers that constitute the Angiocardio Registry (Hospital Bandeirantes, Rede D'Or São Luiz Anália Franco and Hospital Leforte, in São Paulo, SP, Brazil; Hospital Vera Cruz, in Campinas, SP, Brazil; and Hospital Regional do Vale do Paraíba, in Taubaté, SP, Brazil). Data were prospectively collected and stored in a computerized database available through the Internet in all centres participating in the registry. The analysis was performed in two periods: the first period (P1) was from 2006 to 2008 and

1,0%;  $P = 0,87$ ), acidente vascular cerebral (0,2% vs. 0,1%;  $P = 0,47$ ) ou cirurgia de revascularização de emergência (0,1% vs. 0;  $P = 0,68$ ). Idade (odds ratio – OR – de 1,02; intervalo de confiança de 95% – IC 95% – de 1,00-1,05;  $P = 0,04$ ) e Killip III/IV (OR = 6,03, IC 95%; 3,39-10,90;  $P < 0,01$ ) foram as variáveis que melhor explicaram a presença de ECCAM.

**Conclusões:** Nessa grande coorte, mudanças substanciais ocorreram nas características de pacientes tratados por ICP nos últimos 6 anos. O cenário mais complexo associou-se a discreto aumento de infartos periprocedimento, mas não a outros eventos adversos clínicos hospitalares.

**DESCRITORES:** Doença da artéria coronariana. Infarto do miocárdio. Intervenção coronária percutânea. Perfil de saúde. Resultado de tratamento. Registros.

included 1,779 patients; the second period (P2) was from 2009 to 2012 and included 4,509 patients. The primary objective was to compare the rates of major adverse cardiac and cerebrovascular events (MACCE), comprising in-hospital death, periprocedural myocardial infarction, stroke, and emergency coronary artery bypass graft surgery (CABG) at the time of hospital discharge between the determined periods.

### Procedure

The interventions were almost always performed via femoral access; the radial approach was used as an option in a few cases. The choice of technique and material used during the procedure were at the surgeon's discretion, as was the assessment of the need for glycoprotein IIb/IIIa inhibitors. Unfractionated heparin was used in the start of procedure at a dose of 70 U/kg to 100 U/kg, except in patients who already used low-molecular-weight heparin.

All patients received antiplatelet therapy combined with acetylsalicylic acid (ASA), at loading doses of 300 mg and maintenance dose of 100 mg/day to 200 mg/day, and clopidogrel at loading doses of 300 mg to 600 mg and maintenance dose of 75 mg/day. Femoral sheaths were removed four hours after the start of heparinization. Radial sheaths were removed immediately after the procedure.

### Angiographic analysis and definitions

Analyses were performed on at least two orthogonal projections by experienced professionals, using digital quantitative angiography. This study used the angiographic criteria found in National Center of Cardiovascular Interventions (Central Nacional de Intervenções Cardiovasculares – CENIC) database of Brazilian Society of Hemodynamics and Interventional Cardiology (Sociedade Brasileira de Hemodinâmica e Cardiologia Intervencionista – SBHCI). The type of lesion was classified according to the criteria of American College of Cardiology and American Heart Association

Download English Version:

<https://daneshyari.com/en/article/3011854>

Download Persian Version:

<https://daneshyari.com/article/3011854>

[Daneshyari.com](https://daneshyari.com)