RESEARCH LETTER

The "Elpis" Registry on Percutaneous Coronary Interventions: A Three-Year Experience

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Abbreviations: ACS – acute coronary syndrome; CABG = coronary-artery bypass grafting; CAD = coronary artery disease; NSTEMI = non-ST-elevation myocardial infarction; PCI = percutaneous coronary intervention; RCTs = randomized controlled clinical trials; STEMI = ST-elevation myocardial infarction

The advent of percutaneous coronary intervention (PCI) transformed the treatment of obstructive coronary artery disease (CAD) by creating a less invasive revascularization option to coronary-artery bypass grafting (CABG).[1] Although, randomized controlled clinical trials (RCTs) are the gold standard in medical research, there is not always the possibility to conduct properly designed RCTs. The gap between evidence from RCTs and clinical practice can be filled by epidemiological studies and properly designed registries.[2] The results of the Hellenic Heart Registry on Percutaneous Coronary Interventions (HHR-PCI), a national registry of patients with stable angina or acute coronary syndromes who underwent PCI, were only recently published.[3] The purpose of the current study is to report the experience of a newly formed Catheterization laboratory at a tertiary hospital of Athens and to compare its findings to those reported by the HHR-PCI.

Between 1/7/2013 and 31/5/2016, 438 patients who were admitted to the cardiology department of the "Elpis" General Hospital of Athens were submitted to PCI. The demographic characteristics of these patients are shown in Table 1. The majority of the population were males (80.1%), with a mean age of 63.6±11.8 years. A total of 383 patients (87.4%) were of Greek origin, whereas 55 (12.6%) were foreigners. Hypertension, hyperlipidemia, and smoking were all present in more than half of the patients (Table 1). Diabetes mellitus was also prevalent (26.9%). A total of 44.3% of the study participants underwent PCI for ST-elevation myocardial infarction (STEMI), while non-ST-elevation myocardial infarction (NSTEMI) was the indication for PCI in 27.9%, and unstable angina for 14.3% (Table 2a). Stable angina was the indication in just 13.2% of patients. The angiographic findings of our registry are reported in Table 2b.

The demographic characteristics of our patients are similar to those of previous Greek studies,[3-6] indicating that our study sample is representative of the Greek reality. There was a great predominance of males among patients who underwent PCI. All the conventional risk factors for CAD were especially prevalent among our patients. In addition, almost a quarter of them had a history of previous revascularization (either PCI or CABG), as in the HHR-PCI, again signifying the need for better secondary prevention of CAD. Regarding the PCI indications, and in contrast to the HHR-PCI where there was a balance between acute coronary syndrome (ACS) and stable CAD, there was a predominance of ACS, with stable angina representing just a 13.2% of cases. This finding is especially important given the fact that there is still debate over the value of PCI in patients presenting with stable angina.[7,8] Radial access was used in 93%, while femoral access was used in only 7% of cases. This proportion contrasts the one reported in the HHR-PCI and is really promising given the fact that the advantages of the radial route in terms of bleeding are unequivocal compared to the femoral route.[9] The stent type most often used was drug-eluting stents (DES) (about 95% of cases), being more than the one reported in HHR-PCI. There were 4 in-hospital deaths (0.9%).

There are a number of limitations regarding our study, the first being the retrospective nature of data collection. Furthermore, except for in-hospital deaths there was not a uniform reporting of periprocedural complications and in-hospital outcomes. Lastly, our study represents the experience of a single center.

In ***conclusion***, the population in our study mainly consisted of patients suffering an ACS and describes the experience of our center in treating these acutely ill patients. There is an urgent need of a national registry for PCI that will help our country to conform to international standards, especially during the financial crisis period that funds allocated to the health sector are decreasing almost

every year and abiding to these standards is of outmost importance.

Table 1. Characteristics of study population (438 patients).

	Values*
Patients	438 (100)
Males	351 (80.1)
Females	87 (19.9)
Greeks	383 (87.4)
Foreigners	55 (12.6)
Age (years)	63.6±11.8
HTN	273 (62.3)
Hyperlipidemia	225 (51.4)
DM	118 (26.9)
Smoking	234 (53.4)
History of CAD	78 (17.8)
Prior PCI	75 (17.1)
Prior CABG	20 (4.6)

*Values are mean ± SD for continuous variables, and n (%) for categorical variables.
Hypertension (HTN) was defined as history of hypertension or blood pressure ≥140/90 mmHg. Hyperlipidemia was defined as history of hyperlipidemia, or LDL ≥160 mg/dl, or TC ≥240 mg/dl. Diabetes mellitus (DM) was defined as history of diabetes, or FBS ≥126 mg/dl, or HbA1c ≥6.5%.
CAD: coronary artery disease; PCI: percutaneous coronary intervention; CABG: coronary artery bypass grafting; FBS = fasting blood sugar; TC = total cholesterol

Table 2a. PCI indication (433 patients).

	Values*
STEMI	192 (44.3)
NSTEMI	121 (27.9)
Unstable angina	62 (14.3)
Stable CAD	57 (13.2)

* Values are mean ± SD for continuous variables, and n (%) for categorical variables.
CAD: coronary artery disease; NSTEMI; non ST-segment elevation myocardial infarction; PCI: percutaneous coronary intervention; STEMI; ST-segment elevation myocardial infarction. There were missing data for 5 patients.

Table 2b. Angiographic findings (438 patients).

	Values*
1 VD	160 (36.5)
2 VD	149 (34.0)
3 VD	129 (29.5)
Treated LM	25 (5.7)
Treated LAD	332 (75.8)
Treated LCX	231 (52.7)
Treated RCA	284 (64.8)

* Values are mean ± SD for continuous variables, and n (%) for categorical variables.
LAD = left anterior descending artery; LCX = left circumflex artery; LM = left main; RCA: right coronary artery; VD = vessel disease.

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