PRELIMINARILY RESULTS OF PERCUTANEOUS CORONARY ARTERY INTERVENTION IN CORONARY ARTERY DISEASE AT CAN THO UNIVERSITY OF MEDICAL AND PHARMACY HOSPITAL

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ABSTRACT

Background: *Percutaneous coronary artery intervention is optimal treatment in patients with coronary artery disease.* ***Objectives:*** *Describe the coronary artery lesions and evaluate preliminary result of percutaneous coronary artery intervention on patients hospitalized at Can Tho University of Medical and Pharmacy Hospital from 10/2015 – 5/2016.* ***Subjects and methods:*** *Research subjects were patients with coronary artery disease, who had angiography and percutaneous coronary artery intervention at Can Tho University of Medical and Pharmacy Hospital. There were 79 angiographies include 41 percutaneous coronary intervention. Cross-sectional descriptive study.* ***Results:*** *The average age of patients was 63.6 years old, the risk factors of cardiovascular diseases included 5.1% smoking, 86.1 % of hypertension, 64.6% of hyperlipidemia blood disorder. 52.2% interventioned lesions were located at left anterior descending artery, 14.9% at left circumflex artery, 30.4% at right coronary artery and 1.8% at left main coronary artery. The coronary angiography results show that: 36.7% with three narrowing branches, 13.9% with two narrowing branches, and 20.3% with one narrowing branch. Most radial artery intervention with a success rate of 96.2%. Angiographic, procedural and clinically success were 100%, 98.7% and 98.7%, respectively. Complication rates were 2.6%.* ***Conclusions:*** *percutanous coronary intervention success at the Can Tho University of Medical and Pharmacy hospital has achieved over 98.7% with low complication rates was 2.6%.*

Keywords: *percutaneous coronary artery intervention, coronary artery disease.*

I. BACKGROUND

In Viet Nam, as other developing country, prevalance of coronary artery disease (CAD) is increaseing along with the development of the economy and society and becomes a national health issue.

Coronary angiography is a procedure first performed in 1957 and considering the "gold standard" to diagnosis coronary artery atherosclerosis and provide essential information to make right diagnosis. Coronary angiography helps clinican to chose appropriate treatment for the patients between internal medicine, percutanous coronary intervention (PCI) and coronary artery graft bypass (CABG).

Nowaday, there are many PCI centers in Ho Chi Minh City and Ha Noi, Viet Nam. Since 9/2015, The hospital of Can Tho University and Pharmacy (CTUMP hospital) has started performing the coronary angiography in selecting patients. Because PCI is a high-technique and complex procedure, the study that to evaluate the preliminarily results is very important. We process study "*Preliminarily results of percutaneous cornary artery intervention in coronary artery disease at can tho university of medical and pharmacy hospital" with 2 objectives:*

1. Describe the image of coronary lesion by coronary angiography in patient with coronary artery disease at CTUMP hospital.

2. Evaluate the result of PCI within hospitalization period in patient with coronary artery disease at CTUMP hospital.

II. MATERIALS AND METHODS

2.1. Subjects

All patients with CAD who indicated to have coronary angiography and/or PCI *at Can Tho University of Medical and Pharmacy Hospital from 10/2015 – 5/2016.*

2.2. Methods

A cross-sectional descriptive study

Sample number: 79 patients with enough criteria for CAD and 41 patients for PCI from 10/2015 to 6/2016.

Sampling Technique: convenient sampling.

Algorithm

Clinical Diagnosis: patient with diagnosis CAD based on clinical examination, ECG, and echocardiography or acute coronary syndrome based on the guidelines of Viet Nam Nation Heart Association.

Percutaneous coronary intervention is performed at Cardiolody Interventional Unit of CTUMP. Patients then is followed up to 24-48 hours.

Some criteria used in study: description of coronary artery lesion: TIMI grade flow, Gensini Score (< 23: slight; 23-54: mild, >54: severe)

Evaluation

- Angiographic Success: was the achievement of a minimum stenosis diameter reduction stenosis <20% diameter (after stenting) or <50% (after ballooning) and grade 3 TIMI flow.

- Procedural Success: achieved angiographic success without in-hospital major clinical complications (e.g., death, myocardial infarction [MI], emergency coronary artery bypass surgery [CABG]) during hospitalization.

- Clinical Success: included anatomic and procedural success with relief of signs and/or symptoms of myocardial ischemia after the patient recovers from the procedure.

Complication: hypotension, arrthymias, angina, heart failure, radiocontrast associated complication. Vessel: hemorrhage, hematoma, pseudo aneurysm, embolism. Coronary: actute thrombosis, emergency CABG, coronary perforation.

Data Analysis: The data was analyzed by SPSS 18 with Chi Square Test, Fisher Exact Test.

III. RESULTS

3.1. General charasteristics of patients

79 patients had coronary angiographies and 41 of them were intervented. Male: 53.2% , female: 46.8%.

Average age: 63.6, lowest age: 36, highest age: 85, 47% patients in age >60.

Smoking 5.1% , hypertension 86.1%, dyslipidemia 64.6%, diabete 22.8% , obesity 15.2%. Chest pain severity: CCS III 34.2% and CCS IV 8.9%

3.2. Coronary artery lesion of patients by angiography

Table 1. Stenosis coronary branches

Stenosis Branches	n	%
Non Stenosis	23	29.1
1 branches	16	20.3
2 branches	11	13.9
3 branches	29	36.7

There are 50.6% of patients have multiple coronary branches disease

Table 2. Culprit Artery

Culprit Artery	N	%
LAD	51	64.6
LCX	33	41.8
RCA	40	50.6
LMCA	13	16.5

LAD occlusion has highest percentage (64.6%)

Table 3. Classification of TIMI grade flow

TIMI grade flow	n	%
TIMI 1	51	64.5
TIMI 2	5	6.3
TIMI 3	23	29.2

Comment: TIMI 1 has highest percentage 70.8%.

3.3. Result of *percutaneous* coronary intervention

Table 4. Artery access

Artery access	n	%
Radial artery	76	96.2
Femoral atery	3	3.8

The majority of procedure is through radial artery.

Table 5. Stenting location

Stenting location	n	%
LMCA	5	8.3
LAD	30	50.0
LCX	8	13.3
RCA	17	28.4

The most stenting location is LAD (50%).

Table 6. The number of stented artery

The number of stented artery	n	%
1-stent	25	61.0
2-stent	13	31.7
3-stent	3	7.3

Most of patient has 1 artery stenting (61%), 3 artery stenting (7.3%)

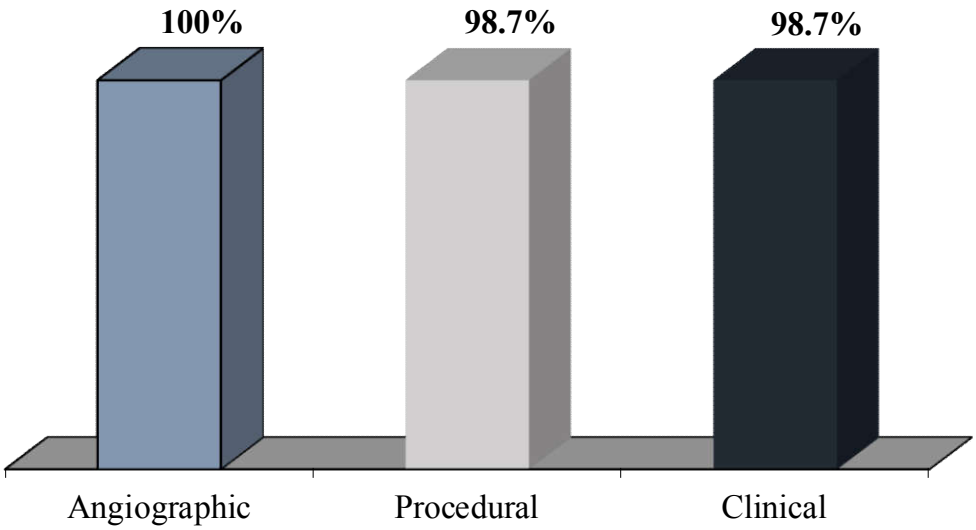

Chart 1. Successful rate of PCI

The succesfull rate of PCI is 98.7% – 100 %

Table 7. Complication in PCI

Complication	n	%
Hematoma	0	0
Hemorrhage	0	0
Acute renal failure	1	1.3
Death	1	1.3
Myocardial infarction	0	0

01 patient got acute renal failure (1.3%) and 01 patient died because of myocardial infarction (1.3%).

IV. DISCUSSION

4.1. Coronary artery lesion

The quantity of stenosis artery

In our study, the prevalence of stenosis artery in 1 branch (20.3%), 2 branches (13.9%) and 3 branches (36.7%). Multiple-artery stenosis prevanlence is 50.6%. This is similar to the study of H.T.Cang 2010 (732 PCI patients) in Kieng Giang hospital with the prevalence is 1 branch (28.6%), 2 branches (47.2%) and 3 branches (24.2%) and T.Q.Binh 2007 (206 PCI patients) in Ho Chi Minh City University Hospital with the prevalence is 1 branch (42.7%) , 2 branches (35%) and 3 branches (22.3%).

These study show that the prevalence of multi- coronary artery disease is quite high. Atherocsclerosis is a time progress disease so that the older patient the narrower the artery lumen. Multi- coronary artery disease prove that the atherosclerosis has been exist for many years. This disease scenario is complex and hard to intervent because the lesion often get calcification.

Stenosis location

In our study, the location of stenosis is LMCA (16.5%), LAD (64.6%), LCX (41.8%), RCA (50.6%). This result is similar to H.T.Cang and H.Q.Binh which also show that the most vulnerable artery is the LAD.

This result can be explain by the anatomy of coronary artery. When the heart pump, LAD is the most affected artery because it lie in the plane of interventricular septum. Everytime the ventricle eject blood, the LAD is not well perfused as RCA and LCX. In adition, the LAD divided into many small branches so the hemodynamic change will affect more and make vortex flow.

4.2. The result of *percutaneous* coronary intervention

Artery access

In our study, the radial artery access is the most approach for coronary procedures. *Because the femoral is hard to access and easy lead to hematoma, the rate of using femoral artery is very low.*

Stenting location

Our study show that the location of stenosis is LMCA (16.5%), LAD (64.6%), LCX (41.8%), RCA (50.6%)**,** and the most stented artery is the LAD because it's easy to be occluded. In 79 patients has coronary angiography, there is just 51.9% be stented. This rate is low because 1/3 of the patient has chronic coronary artery disease that does not meet the criteria to be intervented. Most of the intervention patients perform in 1 artery (61%) and just 7.3% has 3 artery stenting because we just intervent the culprit artery.

PCI result

The successful rate is nearly 100% and is similar to other study. Our succesful rate is higher than HMU Hospital (44%) because we organize the DSA room later and get support from PCI experts. In addtion, most of the patients are in programing intervention so the successful rate is high.

About complication, there is no hematoma case, 1 case has acute renal failure and 1 case died because of myocardial infarction. The low complication rate is similar to other study. PCI is a very safe and feasible procedure and should be done in even high mortality situation such as Killip III-IV myocardial infarction.

V. CONCLUSIONS

79 patients had coronary angiographies and 41 of them were intervented. Average age: 63.6, *Smoking 5.1%, hypertension 86.1%, dyslipidemia 64.6% , diabete 22.8% , obesity 15.2%.* T*he average age 63.6 years old, the risk factors including: 5.1% smoking, 86.1 % of hypertension, 64.6% of hyperlipidemia blood disorders.*

52.2% interventioned lesions were located at LAD, 14.9% at LCx, 30.4% at RCA and 1.8% at LMCA. The coronary angiography results show that: 36.7% with three narrowing branches, 13.9% with two narrowing branches, and 20.3% with one narrowing branch. Most radial artery interventions have a success rate of 96.2%. Angiographic, procedural *and clinically success were 100%, 98.7% and 98.7%, respectively. Complication rate was 2.6%.*

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ANXIETY AND PROPOSED SOLUTIONS TO IMPROVE MENTAL HEALTH AMONG SECONDARY SCHOOL STUDENTS IN CAN THO CITY

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ABSTRACT

Background: *There is a rapidly growing public awareness of anxiety among pupils at Vietnamese secondary schools. This study aims to determine the prevalence of anxiety; identify risk factors related to anxiety; and explore students' own proposals for improving their mental health.* ***Methods:*** *A cross-sectional study was conducted among 1161 secondary students during September-December 2011. A structured questionnaire was use to assess anxiety and proposed solutions based on feedback from youth.* ***Results:*** *The prevalence estimates of symptoms reaching a threshold comparable to a diagnosis of*