A Universal Guiding Catheter During Radial Primary Percutaneous Coronary Intervention for STEMI Improves Efficacy and Reperfusion Time

Cafri C; Zahger D, Kobal S, Rosenstein G, Merkin M, Kleshian U, Ilia R.

Soroka Medical Center and Faculty of Health Sciences.
Ben Gurion University of the Negev
Beer Sheva. Israel

Background

- Performance of Primary PCI through the radial artery is associated with less bleeding complications and better outcome.

- Trans radial primary PCI is a class IIA recommendation in the current STEMI guidelines

Background

- However, trans radial primary PCI is:
  - Technically demanding
  - Associated with more failure and crossover compared with the femoral approach
  - Associated with potential prolongation of reperfusion times

Background

EuroIntervention

A single transradial guiding catheter for right and left coronary angiography and intervention

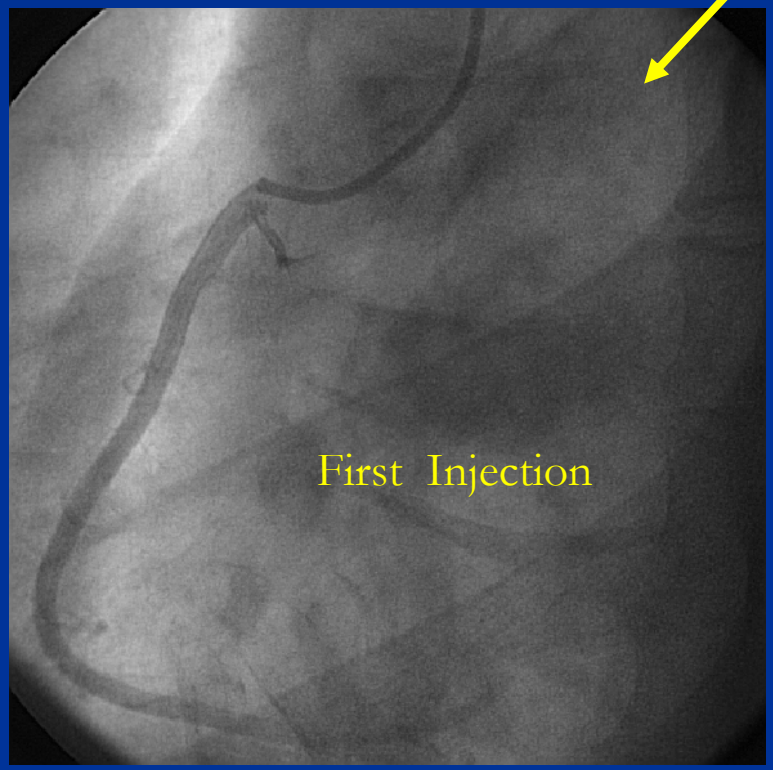
Ali A. Youssef[1], MD; Yuan-Kai Hsieh[2], MD; Cheng-I Cheng[2], MD; Chiung-Jen Wu[2]*, MD

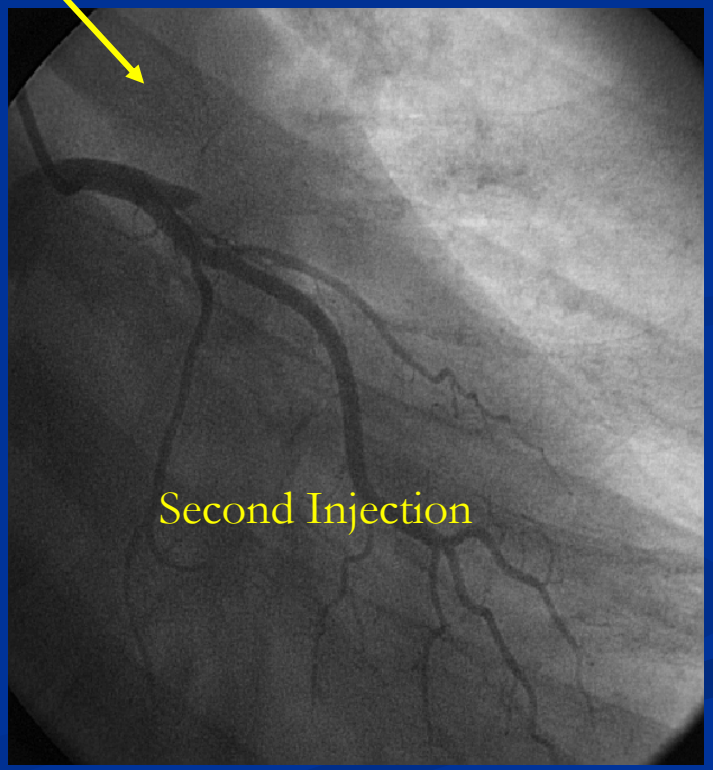
1. Cardiology Department, Suez Canal University Hospital, Ismailia, Egypt; 2. Division of Cardiology, Department of Internal Medicine, Chang Gung Memorial Hospital Kaohsiung Medical Center, Chang Gung University College of Medicine, Kaohsiung, Taiwan, R.O.C.

Ikari compared with Left and Right Judkins

Urgent Angiography

IKARI LEFT 4





Hypothesis

The performance of primary PCI through the radial artery using a universal guiding catheter for both diagnostic right and left coronary angiography and PCI could overcome technical limitations of the procedure and reduce reperfusion delay

Aims

To compare the feasibility and efficacy of transradial primary PCI using a universal guiding catheter to those achieved with conventional diagnostic and guiding catheters

Methods

- Retrospective single center study
- Population: 610 pts with STEMI undergoing transradial PCI
  - 87 pts: Universal (Ikari Left 3.5-4)guiding catheter
  - 523 pts: Conventional diagnostic and guiding catheters
- Analyzed data: Demographic, clinical, angiographic and angioplasty variables

Methods

- End points:
  - Door to Device Time (min)
  - Angiographic Success Rate (%)
  - Fluoroscopy Time (min)
  - Dye volume (cc.)

Definition

- Angiographic Success
  - Residual stenosis less than 30%
  - Final TIMI flow III

Methods

- Source of data: Electronic medical record
- Statistical Analysis
  - SPSS 18
  - Unvariate analysis
    - Chi square for categorical variables
    - *t* test for continuous variables

Results

	Universal n=87	Conventional n=523	p value
Age (y.)	57±12	58±12	ns
Male(%)	82	85	ns
Dyslipidemia (%)	74	61	ns
HTN (%)	37	40	ns
Smoking (%)	71	69	ns
DM (%)	29	22	ns
Obesity(%)	46	47	ns

Admission Characteristics

	Universal n=87	Conventional n=523	
Anterior MI (%)	34	47	ns
Severe LV Dysfunction (%)	21	19	ns
Systolic BP (mmHg)	120±16	117±19	ns
BP < 90mmHg (%)	8	11	ns

Procedure Characteristics

	Universal n=87	Conventional n=523	p value
Radial Access (%)	100	100	ns
Aspiration (%)	40	46	ns
Direct Stenting(%)	68	59	ns
Number of Stents	1.3±.5	1.2±.5	ns
DES (%)	17	26	ns
IABP (%)	2	4	ns
Vessel Treated	1.03±.3	1.02±.1	ns
Lesions Treated	1.3±.5	1.2±.5	ns

Efficacy End Points

	Universal n=87	Conventional n=523	p value
Door/Device time(min)	71± 35	83± 52	0.03
Fluoro Time(min)	9±6	11±8	0.02
Dye Volume (cc.)	116±57	139±60	<0.01
Angiographic Success(%)	96%	92%	ns

Additional Prospective Analysis 30 patients

Universal Catheter	Universal N=30
Succesful Cannulation RCA(%)	97
Successful Cannulation of LCA (%)	97
Crossover (%)	6
Complications(%)	0

Limitations

- Retrospective and non randomized study
- Door to device time is influenced by multiple factors
- Fluoroscopy time and dye volume also depend of multiple factors

Conclusions

The use of a unique, universal guiding catheter for diagnosis and therapy during radial primary PCI could improve the efficacy of this approach

Subjective and Non Scientific Opinion as Operator

- This strategy works!!!!
  - It is:
    - Fast
    - Smooth
    - Safe
    - Probably better

THANK YOU!!!