



Assessment Early Results of Off-Pump Coronary Artery Bypass Grafting Surgery at Can Tho Center General Hospital

Dr. Trieu Viet Lam





Statement of the problem

Aim and Scope of study

Result and Conclusion





Statement of the problem

- Coronary artery disease (CAD) is the leading cause of mortality in cardiovascular diseases.
- Treatment Options: internal medicine, endovascular intervention, surgery, gene therapy.
- Coronary Artery Bypass Graft Surgery (CABG) is a gold standard for CAD treatment.





Statement of the problem

- Coronary Artery Bypass Graft Surgery
 - On-pump (with or without cardiac arrest)
 - Off-pump
- Complications of CPB
- Training curve



Statement of the problem

- History of cardiac surgery in Can Tho Central General Hospital (Mekong Delta)





Aim and Scope of study

- Object: All patient had Off-pump CABG in Can Tho Central General Hospital 2019-2023
- Sample selection criteria: follow ESC and AHA guideline.





Aim and Scope of study

- Exclusion criteria:
 - CABG with CPB(onpump, valve surgery, aorta surgery, ...)
 - Incomplete medical records
- Research design: Retrospective, cross-sectional with analysis





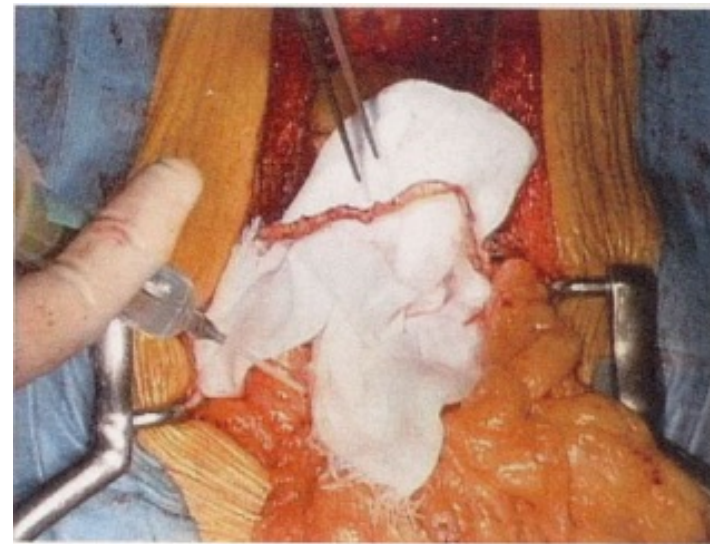
Techniques

- Harvest conduit-graft as same as on-pump CABG
- Stable hemodynamic: vasopressors, fluid replacement,...
- Expose: Pericardial stich with gauze, apical suction
- Tissue fixation : Stabilizer
- Clear view: blow mister CO2 + shunt



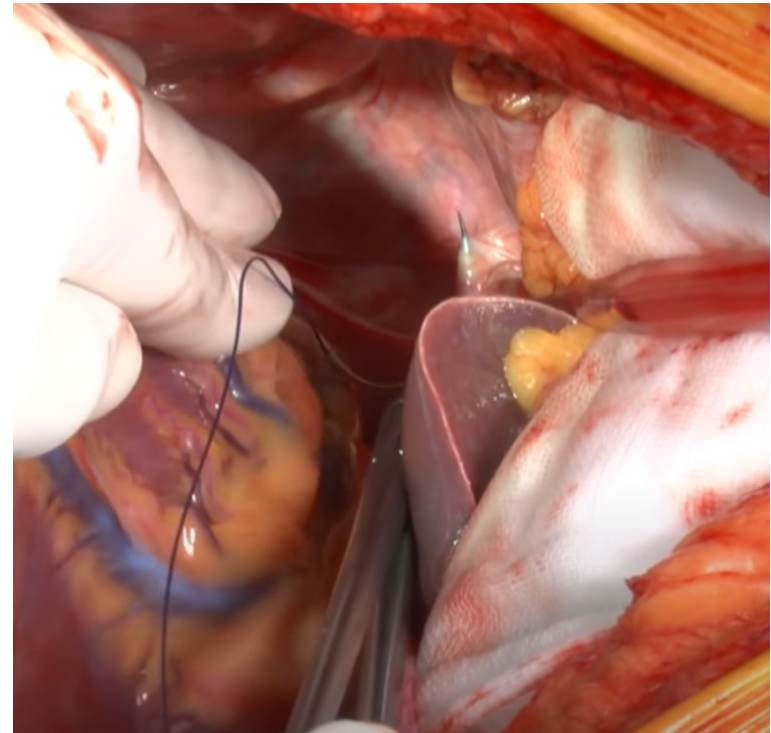
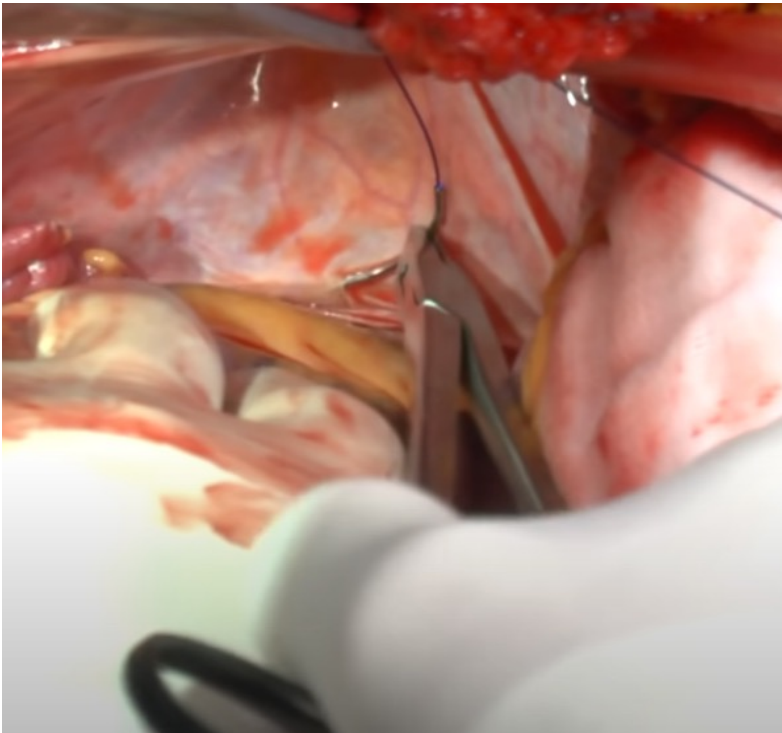
Techniques

- Harvest IMA + GEA with harmonic scalpel, “skeletonization” + “no-touch” technique



Techniques

- Pericardial stitch





Techniques

- Total artery grafting
 - Low quality SVG
 - Severe aortic atherosclerosis
 - GEA for right side branch with stenosis $> 75\%$
- Contraindications
 - Patient with uncontrol diabetes, obesity, COPD => high risk for sternum infection
 - EF $<40\%$: The risk of using vasopressors after surgery can cause spasm of artery graft





Result

- Male/female: 62.2% / 37.8 %
- Mean age: 61,80±6,14
- Risk for CAD:
 - Hypertension : 84.4 %
 - Diabetes: 42,2 %
 - Lipid disorder: 51,1%
 - Smoking: 46,8%





Result

- Coronary artery lesions:
 - Left main: 31,1%
 - LAD: 97,8%
 - LCx: 86,7%
 - RCA: 86,7%



Result

- Conduit graft:
 - LIMA: 45/45~100%
 - RIMA: 27/45~60% (15/27~ 55% cut for Y-graft)
 - GEA: 18/45 ~40%
 - SVG: 20/45 ~ 44,4% (5/20 only one anastomosis, 10/20 sequential 2 anastomosis, 5/20 sequential 3 anastomosis)
- Number of bridges :
 - 03 bridges : 14/45 ~ 31,1 %
 - 04 bridges : 29/45 ~ 64,4%
 - 05 bridges : 2/45 ~4,4%





Result

- Complications after surgery:
 - Arrhythmia: 13,3 %
 - Pneumonia : 4,4%
 - Death: 2/45 ~ 4,4% (01 mesenteric artery occlusion, 01 sepsis shock with multi-organ failure)
 - There have been no recorded complications of neurological stroke, myocardial infarction, or bleeding requiring re-operation after surgery.
- Successful Rate : 95,6%





Conclusions:

- Off –pump CABG Off-Pump is safe, effective, avoid complications of CPB.
- Need good coordination from pre-surgery (pre-operative treatment), anesthesia + CPB standby (in operative)
- Aortic ultrasound should be performed if there is partial aortic clamping (instead of mapping subjective feeling by hand) to prevent plaque
- Training curve.



THANKS FOR LISTENING

