



# 14th Annual Scientific Meeting of Indonesian Association of Thoracic, Cardiac and Vascular Surgeons

Bali, 18 - 21 October 2023

"Cardio Thoracic and Vascular Surgery Services  
in Healthcare Transformation Program"

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## Welcome Message



Dear Colleagues,

The Annual Scientific Meeting of the Indonesian Association of Thoracic, Cardiac, and Vascular Surgery (HBTkVI) is crucial in determining the future direction of professional organization and association of Thoracic, cardiac, and Vascular Surgery specialists since the maturity and growth of thoracic, cardiac, and vascular surgery as associations in general and professionals. In the implementation, we held a symposium to improve and maintain the competence of HBTkVI members.

It is an honour for us to be able to invite all of you to participate in the Annual Scientific Meeting of the Indonesian Association of Thoracic, Cardiac and

Vascular Surgeons which will be held online and offline **on 18 – 21 October 2023** at the **Faculty of Medicine, Universitas Udayana, R.S.U.P. Prof. dr. I.G.N.G. Ngoerah** and **Hotel Hyatt Regency**, Sanur, Denpasar City, Bali Province.

We assure this event will differ from our previous Annual Scientific Meeting events. The event will occur in Bali, one of Indonesia's leading medical tourism centres. In addition, this Annual Scientific Meeting is in conjugation with other Asian countries, namely Malaysia, Singapore and Thailand. Other than inviting international speakers in their fields, this Annual Scientific Meeting is proud to invite colleagues involved in the Thoracic, Cardiac and Vascular Surgery scope, such as perfusionists, internists, hypertension & kidney consultants, cardiovascular consultants, and general practitioners.

I am very happy to welcome all of you to join 14<sup>th</sup> Annual Scientific Meeting Indonesian Association of Thoracic, Cardiac and Vascular Surgeons in Bali either virtually or in person

**Niko Azhari Hidayat, MD**

President of Organizing Committee of 14<sup>th</sup> Annual Scientific Meeting  
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## Comparison outcomes of miniplate and wire cerclage fixation in traumatic sternal fracture: a retrospective multicenter study

**Ketut Putu Yasa<sup>1\*</sup>, Dhihintia Jiwangga<sup>2</sup>,  
Antonius Sarwono<sup>3</sup>, Ronald Kartika<sup>4</sup>,  
Maulidya Ayudika Dandanah<sup>5</sup>, Hariadi Hatta<sup>6</sup>,  
Wayan Sudarma<sup>1</sup>, Arif Rahman Hakim<sup>2</sup>,  
Tommy Dharmawan<sup>7</sup>, Syahroni Ibnu<sup>8</sup>**

<sup>1</sup>Division Thoracic Cardiac and Vascular Surgery Universitas Udayana / Prof. IGNG Ngoerah General Hospital Denpasar, Bali, Indonesia

<sup>2</sup>Department Thoracic Cardiac and Vascular Surgery Universitas Airlangga / Dr.Sutomo Hospital Surabaya, Indonesia

<sup>3</sup>Division Thoracic Cardiac and Vascular Surgery, Telogorejo Hospital Semarang, Indonesia

<sup>4</sup>Division Thoracic Cardiac and Vascular Surgery, Universitas Kristen Krida Wacana, Jakarta, Indonesia

<sup>5</sup>Division Thoracic Cardiac and Vascular Surgery Universitas Sumatera Utara / Haji Adam Malik Hospital Medan, Indonesia

<sup>6</sup>Division Thoracic Cardiac and Vascular Surgery, Riau Universitas Pekanbaru, Indonesia

<sup>7</sup>Division Thoracic Cardiac and Vascular Surgery Medistra Hospital Jakarta, Indonesia

<sup>8</sup>Division Thoracic Cardiac and Vascular Surgery Murni Teguh Hospital Medan, Indonesia

**Introduction:** The management of traumatic sternal fractures is quite heterogeneous. Open surgical fixation is occasionally indicated for intractable pain and unstable motion of the sternum as risk factors of respiratory distress. This study aimed to compare the outcome of miniplate and wire cerclage fixation in traumatic sternal fractures.

**Methods:** A cross-sectional retrospective multicenter study was carried out during 2015 - 2020 in traumatic sternal fracture patients who were undergoing open surgical fixation. Data collection was carried out such as demographic characteristics, associated injury, mechanism of injury, site and type of sternal fracture, the fixation method. Exclusion criteria were sternal fractures due to non-trauma, incomplete data, and patient was death or referral to others facilities. The primary outcomes endpoints of this study were duration of ventilator after surgery, Intensive Care Unit (ICU) length of stay, hospital length of stay (LOS), and complications of blood loss requiring transfusion. Patients were divided into two group, a miniplate fixation group and wire cerclage fixation group. The comparison outcome between two groups was statistically analyzed using The Mann Whitney test and Chi-square / Fisher Exact test from numerical and categorical data. Data analysis uses SPSS 23 program.

**Results:** During the period of 2015-2020 there were 47 traumatic sternal fractures patients, but 34 patients were included. The majority of patients were male 31 (91%), 25(73%) fracture site at corpus sternum, 27(79%) with associated injury mostly rib fracture (47%) and hemothorax or pneumothorax (56%), mechanism of injury was 30(88%) of patients were traffic accident.

There were 15 (44%) patients who underwent a miniplate fixation and 19 (56%) patients who underwent wiring cerclage fixation. From statistical analyses in both numerical and categorical data showed there was no significant difference outcome between two groups in terms of the length of ventilatory support, ICU LOS, Hospital LOS and blood loss requiring blood transfusion ( $p > 0, 05$ ), although that all variables were higher in wire cerclage groups. However, there was a significant difference in the outcome from intubation before surgery ( $p < 0.05$ ).

**Conclusion:** There was no significant difference between miniplate and wire cerclage fixation in traumatic sternal fractures in duration of ventilatory support, ICU LOS, Hospital LOS and blood loss requiring transfusion.

**Keywords:** Sternal, fractures, complications, fixation, outcomes.

## Complication of arteriovenous fistula in hemodialysis patients in rural area, what clinician must concern: a case series and literature review

**Maranatha Liem<sup>1\*</sup>,  
Josephine Emerencia Stephanie Sudirman<sup>2</sup>,  
Sally Suharyani<sup>3</sup>**

<sup>1</sup>Siloam Labuan Bajo, Manggarai Barat, East Nusa Tenggara

<sup>2</sup>General practitioner, Siloam Labuan Bajo, Manggarai Barat, East Nusa Tenggara

<sup>3</sup>Residency Program, Faculty of Medicine, Universitas Airlangga, Indonesia

**Introduction:** Chronic kidney disease hemodialysis patient requires permanent dialysis access like arteriovenous fistula (AVF). In rural areas, many patients can't have AVF in time due to the limitations of facilities and surgeons. As the result there are many complications develop.

**Case Presentation:** In this article we report on hemodialysis patients manifesting complications due to AVF. AVF of all patients in this case was created more than 6 months after the hemodialysis was started for many reasons. While waiting for the AVF, temporary hemodialysis access was created using a short-term double-lumen catheter. The first patient was 46-year-old male. The AVF was created 6 months after the dialysis was started. He then developed complications of central vein stenosis, superior vena cava syndrome, AVF pseudoaneurysm and subsequent rupture and permanent loss of the AVF. The second patient was 36-year-old female whose AVF was created 7 months after the dialysis was started. She had complications of central vein stenosis and superior vena cava syndrome. The last patient was 38-year-old female whose AVF was created 6 months after dialysis. She developed complications of ipsilateral AVF pseudoaneurysm and frequent bleeding at the puncture site.

**Conclusion:** Prevention is always better than cure especially in limited resources areas. AVF complication is very devastating and physician must be able to learn and applied their knowledge to prevent the complication of AVF.

**Keywords:** arteriovenous fistula, hemodialysis, aneurysm.



## Descending necrotizing mediastinitis caused by acinetobacter baumannii with severe malnutrition: a case report

Nania Tiona Deborah Novitauli Tampubolon<sup>1\*</sup>,  
Phaleno Pramasditomo Widaryo<sup>2</sup>

<sup>1</sup>General Practitioner, Gunung Jati General Hospital, Cirebon City, West Java, Indonesia

<sup>2</sup>Thorax and Cardiovascular Surgeon Department, Gunung Jati General Hospital, Cirebon City, West Java, Indonesia

**Introduction:** Descending necrotizing mediastinitis (DMN) is a life-threatening infection that originates from the ears, nose or throat and spreads inferiorly into the mediastinum via connective-tissue planes. If descending necrotizing mediastinitis is not diagnosed and treated promptly, the mortality rate can reach 50%.

**Case Presentation:** A 26-year-old male was admitted to the emergency room with symptoms of swelling and pain in neck and upper chest. The patient said he had bad oral hygiene and a toothache 2 weeks earlier. Five days earlier, the patient had neck debridement and drainage performed at the previous hospital. Laboratory results showed leucocytosis (leucocyte 20660 /uL; normal 4000 - 10000 /uL) and Cervical-Thoracic CT-scan indicated neck inflammation and mediastinitis. *Acinetobacter baumannii* sensitive to cotrimoxazole was found in the patient's pus culture. The patient was treated with meropenem, metronidazole, vancomycin, and cotrimoxazole. The patient underwent tooth extraction, debridement of abscesses in the neck and chest wall and transcervical mediastinal drainage. Patient consulted a nutritionist due to severe malnutrition and got total parenteral nutrition and albumin transfusion.

**Conclusion:** Descending necrotizing mediastinitis (DMN) is a life-threatening infection that has a high mortality rate. However, the patient's outcome can be improved with aggressive antibiotic therapy, completely eliminating the source of infection, and treating comorbidities.

**Keywords:** *Acinetobacter baumannii*, Cotrimoxazole, Descending necrotizing mediastinitis, Malnutrition, Transcervical mediastinal drainage.

## Case report: elevated C-reactive protein (CRP) and D-dimer as predictive biomarkers of acute limb Ischemia in a COVID-19 patient

Reza Fauzi<sup>1\*</sup>, Hariadi Hadibrata<sup>2</sup>

<sup>1</sup>Siloam Hospitals Mampang, Indonesia

<sup>2</sup>MRCCC Siloam Hospitals Semanggi, Indonesia

**Introduction:** There are many complications of COVID-19, including acute limb ischemia (ALI). Due to the rapidly changing clinical course, high amputation and mortality rate, accuracy in diagnosis is needed to ensure immediate treatment. This process is challenging as COVID-19 is a novel and complex disease, and ALI has only been recently.

**Case Presentation:** We are reporting a 49 year-old woman with COVID-19 and diabetes mellitus type 2 who reported chest pain on her third day of hospitalization. The patient had been given levofloxacin 1x750mg, oseltamivir 2x75mg, heparin drip 15.000IU/24 hour, dexamethasone 3x10mg and

novorapid drip 2IU/hour. Lab results included CRP 107.6 mg/L, D- dimer 1.58mg/L, thrombocyte 168.000cells/uL, HbA1c 10.4%. Her ECG showed ventricular extra-systole, thus was given aspirin 80mg, clopidogrel 75mg, ISDN 5mg, and concor 2.5mg. On the next day, the patient reported pain on her left arm. Upon doppler ultrasound we found hyperechoic lesion on the left brachial region with diffuse soft tissue swelling on the axillary region, which indicated possible thrombus on the left brachial vein. Therefore, the patient underwent thrombectomy and fasciotomy, continued with open wound care for 10 days until the patient was fit to be discharged.

**Results:** Our patient showed elevated CRP and D-dimer at the time of admission, which has been reported to be critical biomarkers in assessing the severity of COVID-19 and predicting complications such as ALI. Therefore, we started administering heparin before the patient showed any symptoms of ALI. However, due to having the risk factor of diabetes mellitus type 2, we could not prevent the occurrence of ALI and performed revascularization immediately after the diagnosis was made. Our prompt approach allowed the patient to survive and saved her limbs from amputation.

**Conclusion:** ALI is a complication that requires immediate diagnosis to improve the patient's prognosis, thus understanding biomarkers that can predict its occurrence in COVID-19 patients, including CRP and D-dimer, can be useful. This case illustrates the diagnostic and therapeutic approach to ALI as a complication of COVID-19.

**Keywords:** acute limb ischemia, C-reactive protein (CRP), COVID-19, D-dimer.

## Management of bullet foreign body on the thoracic wall: a case report from the peripheral hospital with limited facilities

Heriberty Chindy Sulisty<sup>1\*</sup>, Imam Hafidh Zaini<sup>2</sup>

<sup>1</sup>General Practitioner, Samuel J. Moeda Kupang Naval Hospital, Indonesia

<sup>2</sup>General Surgeon, Samuel J. Moeda Kupang Naval Hospital, Indonesia

**Introduction:** To present the evacuation management of bullet foreign bodies on the thoracic wall in a peripheral hospital only by chest X-ray examination due to the absence of CT-scan and C-arm modalities

**Case Presentation:** A 17-year-old boy came with a gunshot wound to the left chest. The patient underwent a conventional chest X-ray because the hospital does not have a CT scan and C-arm modalities. The foreign body bullet appeared in the second left intercostal on the chest X-ray. After being marked, bullets were found with chest X-rays on the x-axis +0.5 cm, y-axis -0.5 cm, and z-axis with a depth of -2.5 cm. Then a site marking was made at that point. A bullet was found at the time of the operation, according to the site marking as deep as 2.7 cm just above the second rib. The patient was given analgesic and antibiotic therapy after the evacuation of the bullet and then observed for two days. No complications were found, so the patient was sent home.

**Conclusion:** Evacuation of foreign bodies can be done using chest X-rays as a modality. The marker is placed according to the location of the foreign body. Then projections are made on the x, y, and z axes to obtain an accurate location of the foreign body.

**Keywords:** bullet foreign body, thoracic trauma, gunshot wound.

## The potential of trimetazidine in protecting the myocardium on coronary artery bypass grafting surgery: a systematic review and meta-analysis

Muhammad Sabri<sup>1\*</sup>, Annisa Tria Fadilla<sup>2</sup>, Hariadi Hatta<sup>1</sup>, Brilliant<sup>1</sup>, Moch Habib<sup>3</sup>

<sup>1</sup>Division of Cardiothoracic Vascular Surgery, Arifin Achmad Hospital, Pekanbaru, Indonesia

<sup>2</sup>Division of Cardiovascular of Medicine, Arifin Achmad Hospital, Pekanbaru, Indonesia

<sup>3</sup>Division of Surgery, Arifin Achmad Hospital, Pekanbaru, Indonesia

**Introduction:** Coronary artery bypass graft (CABG) is an effective surgical treatment for coronary artery disease. However, during and after CABG, there can be ischaemic reperfusion injury resulting in myocardial damage, decreased cardiac output or even arrhythmias. Increased biochemicals from myocardial injury are side effects of CABG. So, the role of myocardial preservation is an essential issue for patients undergoing CABG.

**Methods:** We conducted a systematic review and meta-analysis to analyze the role of trimetazidine therapy on postoperative myocardial preservation in CABG patients by assessing several biochemical markers of myocardial injury, including troponin T (TnT), creatinin kinase-myocardial band (CK-MB), and creatine kinase (CK). The RCTs were classified into two subgroup analyses by the timing of sample collection (either  $\leq 12$  or  $> 12$  h after CABG).

**Results:** Five RCTs were finally included in the meta-analysis. In both the  $\leq 12$  and  $> 12$  h post-CABG subgroup analyses, significant differences in TnT, CK-MB, and CK were detected between the trimetazidine-treated CABG patients relative to control CABG patients. The pooled effect size  $\leq 12$  hours postoperatively differed significantly between the trimetazidine and control groups. In the TnT subgroup (SMD = -6.51, 95% CI = -9.75 to -3.27,  $p < 0.00001$ ). For the CKMB subgroup (SMD = -2.19, 95% CI = -3.15 to -1.23,  $p < 0.00001$ ). The CK subgroup  $\leq 12$  hours postoperatively (SMD = -1.35, 95% CI = -3.38 to 0.68,  $p < 0.00001$ ). The pooled effect size  $> 12$  hours postoperatively differed significantly between the trimetazidine and control groups. In the TnT subgroup (SMD = -3.91, 95% CI = -5.65 to -2.16,  $p < 0.00001$ ). For the CKMB subgroup (SMD = -2.68, 95% CI = -4.42 to -0.94,  $p < 0.00001$ ). The CK subgroup  $\leq 12$  hours postoperatively (SMD = -3.54, 95% CI = -7.40 to -0.31,  $p < 0.00001$ ). Heterogeneity ( $I^2 = 96\%$ ,  $p < 0.00001$ ); (SMD = -3.54, 95% CI = -7.40 to -0.31,  $p < 0.00001$ ).

**Conclusion:** Myocardial preservation of CABG by comparing the effects of trimetazidine and placebo by assessing several levels of myocardial damage was significantly lower in CABG patients treated with trimetazidine compared with control CABG patients.

**Keywords:** myocardial protection, trimetazidine, coronary artery bypass graft.

## Photodynamic treatment for central-type lung cancer in clinical setting: a systematic review

Haidar Ali Robbani Al Asrory, Hana Aqilah Nur Imania

Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

**Introduction:** Lung cancer has been globally recognized as the main cause of malignancy disease. Many restrictions limit the use of surgical methods as the main curative treatment. Recently, cancer cells have been found to be damaged by photodynamic therapy (PDT).

**Purpose:** To systematically review PDT's clinical efficacy in the treatment of central-type lung cancer by evaluating the tumor response and the recurrence after a complete response was achieved.

**Method:** Electronic databases were searched including PubMed, ScienceDirect, Scopus, as well as Google Scholar without any time limit. The inclusion criteria in the current review were the observational studies involving lung cancer patients, particularly centrally located lung carcinoma, who received PDT only. Eventually, all included studies will be assessed for bias with Newcastle-Ottawa scale tools.

**Results:** Overall, from the 14 included studies, 5 of them had high study quality and the rest were moderate, 879 participants were involved in this study. The majority of studies were conducted in Japan, with the histological results of the studied lesions being dominated by the type of squamous cell carcinoma. The most commonly used photosensitizer is Photofrin (porfimer sodium) at a dose of 2–5 ml/mgBW, followed by NPe6 (talaphorin sodium). Eleven studies demonstrated a complete response (CR) in more than 80% of the observed lesions. In particular, the CR in lesions measuring less than 1.0 cm is almost entirely greater than 93%. Then, 5 of 9 studies presented less than 10% of cases of CR recurring.

**Conclusion:** In discussing therapy for central-type lung cancer, PDT can be considered as an alternative with consideration for patients with early stages who cannot be operated on. Currently, not many clinical studies confirm this therapy's effectiveness, so it is hoped that PDT can be performed on more patients.

**Keywords:** photodynamic therapy; lung cancer; photosensitizer; squamous cell carcinoma; systematic review

## Plegiocard® VS modified del nido cardioplegia solution: renal and left ventricle function outcome study

Jiwono RA, Wardoyo S, Susanti DS, Makdinata W, Dirk B, Felinsianita M

Pediatric Cardiac Surgery Subdivision, Cardiac, Thoracic and Vascular Surgery Department, Cipto Mangunkusumo National Hospital, Indonesia

**Background:** Cardioplegia is one of the myocardial protection in cardiac surgery. Very few studies have examined the differences between the Plegiocard® and modified del Nido solutions in pediatric cardiac surgery. Therefore, we wanted to analyze the renal and cardiac outcomes in both groups.

**Methods:** All data were analyzed from this retrospective study starting from 2021 to 2022 in Ciptomangunkusumo National Hospital. Renal outcome (Ureum and Creatinine serum levels) and Left Ventricular Ejection Fraction were compared in both groups

**Results:** Total sample in 2021-2022 period ( $n=222$ ). The most common surgical procedure is TOF repair of 39.6%. Plegiocard® (82.9%) was the most used cardioplegia. Postoperative ureum and creatinine levels in the Plegiocard® and Modified del Nido groups (27.5 vs 25 mg/dL,  $p$ -value 0.533; 0.3 vs 0.35 mg/dL,  $p$ -value 0.268, subsequently). Postoperative LVEF for Plegiocard® and Modified del Nido ( $p$ -value 0.002, OR [CI 95%] 0.986 [0.499-1.946])

**Conclusion:** The usage of Plegiocard® or Modified del Nido cardioplegic solution was comparable for renal outcome and postoperative left ventricular ejection fraction

**Keywords:** cardioplegic solutions, cardiopulmonary bypass, child, heart defects, congenital, postoperative complications.

## Preoperative risk factor of surgical site infection following adult cardiac surgery: a single center experience

Reynold Siburian<sup>1</sup>, Anette Pardede<sup>1</sup>,  
Dimas Tri Setyo Nugroho<sup>2</sup>, Gusti Reza Ferdiansyah<sup>2</sup>

<sup>1</sup>Research unit, Jakarta Heart Centre, Indonesia

<sup>2</sup>Division of Cardiac Surgery, Jakarta Heart Centre, Indonesia

**Introduction:** Surgical site infection (SSI) following adult cardiac surgery remains an inseparable challenge despite advances in its prevention. Understanding preoperative risk factors associated with SSI would help healthcare providers improve patient care and decrease readmission costs. This study aims to analyze associated risk factors on SSI in adult cardiac surgery patients.

**Methods:** This retrospective study was conducted in Jakarta Heart Center (JHC). Data were abstracted on adult (18-64) patients who underwent cardiac surgery procedures between 2020-2023. Potential risk factors for SSI were obtained electronically from JHC medical records, including age, gender, diabetes, hypertension, smoking status, creatinine level, Hb, LVEF, Blood sugar, albumin level, duration of surgery. We employed univariate, bivariate and multivariate to determine association between preoperative risk factors and SSI. Bivariate analysis was done either with Chi-Square (categorical data) or Mann-Whitney (numerical data). Multivariate analysis was done with binomial logistic regression

**Result:** 108 samples were collected (54 were case and 54 controls). Smoking status ( $p = 0.010$ ,  $RR=1.634$ , 95% CI 1.134-2.355) and diabetes ( $p=0.048$ ,  $RR = 1.511$ , 95% CI 0.976 – 2.341) were reported as statistically significant factors affecting occurrence of SSI. We then employed multivariate analysis with binomial logistic regression. After adjustment of covariate of age, smoking and diabetes emerged as significant preoperative factors for occurrence of SSI with smoking as the leading factor ( $RR = 3.125$ ,  $p =0.011$ ) and diabetes followed behind ( $RR= 2.65$ ,  $p=0.030$ ).

**Conclusion:** Current smoking and history of diabetes are significantly associated with development of SSI after adjusting for age with current smoking as the leading factor. More studies are needed to examine establish causal relationship between aforementioned preoperative factors with development of SSI.

**Keywords:** adult cardiac surgery, preoperative risk factors, surgical site infection.

## Pulmonary tuberculoma, to resect or not to resect: a systematic review

Devi Agustini Rahayu<sup>1</sup>, Keyshia N Yazid<sup>2</sup>,  
Bermansyah Burhan<sup>2</sup>

<sup>1</sup>Kayuagung Hospital, Palembang, Indonesia

<sup>2</sup>Department of Cardiothoracic and Vascular Surgery, Dr. Moh. Hoesin Hospital, Faculty of Medicine Universitas Sriwijaya, Palembang, Indonesia

**Introduction:** Pulmonary tuberculomas usually present as a solitary pulmonary nodule. Pulmonary tuberculoma is difficult to differentiate from lung cancer. The treatment should follow the multiple disciplinary teams. This systematic review is aimed to summarize the effectiveness of pulmonary tuberculoma treatment, including the response to anti-tuberculosis treatment or surgical resection.

**Methods:** PubMed, Wiley, Cochrane, ProQuest, and ScienceDirect were searched for any design study that showed the cure rate of pulmonary tuberculoma treatment, with surgical resection or the used of anti-tuberculosis treatment. Four studies were identified and analyzed from 288 initial articles. Data were then extracted from the studies and summarized descriptively.

**Results:** Two hundred eighty-eight articles were screened, and four studies were identified and eventually selected. The cure rate of pulmonary tuberculoma increased in patients with surgical procedures compared with medical treatment (only anti-tuberculosis treatment). Pulmonary tuberculoma responds poorly to anti-tuberculosis treatment and often requires long-term treatment. The treatment of tuberculoma with surgical resection works effectively, with better short- and long-term effects for tuberculoma.

**Conclusion:** Surgical resection was effective in increasing the cure rate of pulmonary tuberculoma. Pulmonary resection in combination with post-operative anti-tuberculosis treatment results in excellent cure rate.

**Keywords:** pulmonary tuberculoma, surgical resection, anti-tuberculosis treatment.

## Successful prolonged intermittent renal replacement therapy in managing isolated coronary artery bypass graft surgery associated with acute kidney injury: a case report

Adam Huzaiby<sup>1</sup>, Suprayitno Wardoyo<sup>2</sup>,  
Adrian Reynaldo Sudirman<sup>3</sup>

<sup>1</sup>General Practitioner, Hermina Depok Hospital, Depok, Indonesia

<sup>2</sup>Thoracic and Cardiovascular Surgeon, Hermina Depok Hospital, Depok, Indonesia

<sup>3</sup>Thoracic and Cardiovascular Surgeon Resident, Cipto Mangunkusumo National Hospital, Jakarta, Indonesia

**Introduction:** The incidence of cardiac surgery-associated acute kidney injury (CSA-AKI) is a devastating condition. The prevalence is around 20% with mortality-rate exceeds 63%. Early intervention is very crucial to lower the mortality-rate. Hereby we present our experience in utilizing prolonged intermittent renal replacement therapy (PIRRT) in managing CSA-AKI.

**Case description:** A 69-year-old man admitted to undergo elective CABG-surgery. His past medical history was remarkable for unstable angina pectoris (UAP). Coronary Angiography (CAG) study demonstrated left main and two-vessel disease. His EF was 60.5%, with no prior history of diabetes mellitus (DM) and chronic kidney disease (CKD). The coronary artery bypass graft (CABG) was performed by anastomosed left internal mammary artery (LIMA) to distal segment of the left anterior descending (LAD) and one graft of great savenous vein (GSV) was anastomosed to obtuse marginal (OM). Following the surgery, the patient experienced post-operative atrial fibrillation and stage three AKI. His urine production decreased with leg swelling and no shortness of breath. His serum creatinine evaluation reached 3.48-mg/dL and urea 112.9 mg/dL. Our team and nephrologist decided to perform prolonged intermittent renal replacement therapy (PIRRT) with sustained low-efficiency daily dialysis mode (SLEDD). After second dialysis, patient's condition improved, with increased urine-output production and lowered serum urine-creatinine. After close monitoring for fifteen days, the patient's serum creatinine gradually became normal. He did not need subsequent routine dialysis following discharge from our hospital.

**Conclusion:** The choice of postoperative management of CSA-AKI must be concordance with the disease's severity. Alternative techniques other than CPB-machine, judicious use of blood products, and prompt management of POAF should be considered. The PIRRT can be chosen as alternative to CRRT with the same outcome for managing AKI following CABG surgery.

**Keywords:** acute kidney injury, coronary artery bypass graft, renal replacement therapy.

## Surgical closure of an atrial septal defect through anterolateral thoracotomy in small child

Reynold Siburian<sup>1\*</sup>, Dimas Trisetyo Nugroho<sup>2</sup>

<sup>1</sup>Research unit, Jakarta Heart Centre, Jakarta, Indonesia

<sup>2</sup>Division of Thoracic, Cardiac and Vascular Surgery, Jakarta Heart Centre, Jakarta, Indonesia

**Introduction:** Atrial septal defect closure in small children often necessitates median sternotomy approach however it is associated with bad cosmetic results. Other approach such as anterolateral thoracotomy enhance cosmetic results but requires more technical expertise. This case report details use of anterolateral thoracotomy for ASD closure in children below 10 kg.

**Case description:** A 1-year and 10-month-old female patient with a large secundum ASD, weighing 7 kilograms, was referred for surgical closure. We use anterolateral thoracotomy approach due to risk of cosmetic disfigurement. Surgical access was achieved through a 5-6 cm incision on the right anterolateral chest wall. We performed central aortic and bicaval cannulation, right atriotomy and ASD was closed with polypropylene. The patient's recovery was uneventful, and she was discharged after five days.

**Conclusion:** ASD closure with anterolateral thoracotomy in pre-pubertal, underweight children is possible with better cosmetic outcomes compared to conventional sternotomy.

**Keywords:** anterolateral thoracotomy, atrial septal defect, underweight child.

## The challenging of diagnosis, treatment, and education in patients with buerger's disease: a case report from remote area

Rama Azalix Rianda<sup>1</sup>, Heri Satryawan<sup>1</sup>, Jacquels Mozes<sup>2</sup>

<sup>1</sup>General Practitioner, Dompu General Hospital, West Nusa Tenggara, Indonesia

<sup>2</sup>General Surgeon, Dompu General Hospital, West Nusa Tenggara, Indonesia

**Introduction:** Thromboangiitis obliterans (TAO) or Buerger's Disease is a chronic inflammatory disease. If not treated early and adequately, TAO can result in limb amputation. The study regarding TAO in women is rare and limited. Also how difficult it is to diagnose and educate patients with TAO, especially in remote areas.

**Case Presentation:** A 38-year-old woman came to the emergency room with the chief complaint of pain and darkening in toes and hands 2 months ago, especially when it is cold. The patient did not come to the public health facility but was treated with traditional medicine according to local beliefs. The history of smoking was denied. The localized status was found gangrene in toes and fingers, ulcer in toes, and oedema in legs. Allen's tests were positive. Dorsalis

pedis arteries were palpable. ABI wasn't performed. Laboratory examination showed an increased liver function. Cardiomegaly, Lung oedema, and minimal right pleural effusion were shown in Chest X-ray. History taking, clinical finding, and laboratory finding suggested the patient to amputation but the patient refused it. The Patient was treated by antibiotics, analgetic, anticoagulant, and double. After 3 days of treatment, the patient was discharged and asked to return to the outpatient care for education about amputation.

**Conclusion:** It is difficult to diagnose Buerger's disease or thromboangiitis obliterans because of the atypical complaints, minimal risk factors, and limited facilities for imaging and other laboratory tests. The difficulty of educating patients to get the best treatment is also a challenge for general practitioners, especially in remote areas.

**Keywords:** Buerger's disease, thromboangiitis obliterans, woman, remote area, education level.

## The patency of saphenous vein graft (SVG) method using non-touch technique compared to conventional techniques in coronary artery bypass graft (CABG) procedure: systematic review and meta-analysis

Henok Nugrahawanto<sup>1</sup>, Arinda Agung Katritama<sup>2</sup>, I Komang Adhi Parama Harta<sup>2</sup>

<sup>1</sup>Resident of Department of Cardiothoracic and Vascular Surgery, Division of Cardiothoracic and Vascular Surgery, Faculty of Medicine, University of Udayana, Prof. dr. I.G.N.G. Ngoerah General Hospital, Denpasar, Bali, Indonesia

<sup>2</sup>Division of Cardiothoracic and Vascular Surgery, Faculty of Medicine, University of Udayana, Prof. dr. I.G.N.G. Ngoerah General Hospital, Denpasar, Bali, Indonesia

**Introduction:** Coronary artery bypass graft (CABG) is a major surgical procedure to remove atheromas from the coronary artery through grafted vein or artery. Many studies reported that the harvesting technique is one of the determining factors of a successful procedure. Previous studies have been collected to compare non-touch and conventional harvesting methods. The study discusses the patency of saphenous vein graft (SVG) harvesting method between the non-touch and traditional techniques in the CABG procedure.

**Methods:** This article used Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020 guidelines with database search on PubMed and SagePub from 2013 to 2023. The search was done in July 2023. The recorded results are patency comparison, complications (MACCE), and leg infection post-CABG procedure with both techniques.

**Results:** This study found 3 relevant articles to compare both techniques. The non-touch method has lower occlusion vein risk than conventional (OR=0.39; 95% CI = 0.22 - 0.68, I2 56%, p<.001). However, it has a higher leg wound infection risk post saphenous magna vein harvesting (OR=2.47; 95% CI = 1.66-3.69, I2 0%, p<.001). Both approaches are significantly indifferent regarding post-operation complications.

**Conclusion:** Patient undergoing CABG with a non-touch approach has lower vein occlusion risk than conventional, hinting at the benefit of maintaining vessel patency post-CABG procedure although possessing a higher infection risk in harvesting location.

**Keywords:** Coronary artery bypass graft, conventional SVG, non-touch technique, coronary cardiac disease, saphenous vein graft.

## Clinical efficacy of cilostazol for promoting the maturation of newly created arteriovenous fistula in patients with end-stage renal disease: a systematic review and meta-analysis

Herick Alvenus Willim<sup>1</sup>, Alvin Ariyanto Sani<sup>2</sup>, Hengky Khouw<sup>2</sup>

<sup>1</sup>General Practitioner, RSUD dr. Agoesdjani, Ketapang Regency, West Kalimantan, Indonesia

<sup>2</sup>Department of Cardiothoracic and Vascular Surgery, RSUD dr. Soedarso, Pontianak, West Kalimantan, Indonesia

**Introduction:** Arteriovenous fistula (AVF) is the gold standard vascular access for hemodialysis. Despite its importance, achieving AVF maturation remains challenging. Cilostazol, a phosphodiesterase 3 inhibitor, has been shown to be a promising drug for enhancing AVF maturation. This meta-analysis aimed to investigate the clinical efficacy of cilostazol on AVF maturation.

**Methods:** This study was registered in PROSPERO with the registration number of CRD42023447040. Meta-analysis was performed according to PRISMA guidelines. We conducted a comprehensive systematic literature search in the databases of PubMed, ScienceDirect, Cochrane Library, ProQuest, and Google Scholar to identify studies investigating the clinical efficacy of cilostazol on the maturation of newly created AVF in patients with end-stage renal disease (ESRD) requiring hemodialysis. The intervention groups received perioperative cilostazol therapy, while the control groups did not receive cilostazol. The primary outcome was the maturation rate of AVF, and the secondary outcome was the complication rate of AVF. The quality of included studies was assessed using the Jadad score for RCT study and the Newcastle-Ottawa Scale for non-RCT study. Meta-analysis was conducted using Review Manager 5.3.

**Results:** Five studies involving 549 patients undergoing AVF creation were included in this meta-analysis. The intervention groups comprised 228 patients who received perioperative cilostazol therapy, while the control groups comprised 321 patients who did not receive cilostazol. The pooled analysis showed that patients in the intervention groups had a significantly higher rate of AVF maturation (OR = 2.18, 95% CI: 1.29-3.68, P = 0.003, I<sup>2</sup> = 47%) and a lower rate of AVF complications (OR = 0.46, 95% CI: 0.28-0.77, P = 0.003, I<sup>2</sup> = 27%) compared to the control groups. The funnel plots were symmetric, indicating no publication bias present.

**Conclusion:** This meta-analysis provides evidence that cilostazol use is associated with a higher rate of AVF maturation and a lower rate of AVF complications. These findings suggest that patients who are candidates for AVF access may benefit from perioperative cilostazol therapy.

**Keywords:** Cilostazol, arteriovenous fistula, maturation, complication, end-stage renal disease, hemodialysis.

## Above knee amputation following fogarty thromboembolectomy in acute limb ischemia with gangrene of patient with atrial fibrillation: a case report

Deiva Iswara Wardhani<sup>1</sup>, I Dewa Gede Nalendra Djawa Iswara<sup>2</sup>, Rama Azalix Rianda<sup>3</sup>, Ni Made Adnya Suasti<sup>4</sup>

<sup>1</sup>Medical Doctor, Faculty of Medicine, Universitas Airlangga, Surabaya, 60132, Indonesia

<sup>2</sup>Cardio Thoracic and Vascular Surgeon, Naval Hospital (RSAL) Dr. Ramelan, Surabaya, 60244, Indonesia

<sup>3</sup>Medical Doctor, Faculty of Medicine, Universitas Airlangga, Surabaya, 60132, Indonesia

<sup>4</sup>Medical Doctor, Faculty of Medicine, Universitas Airlangga, Surabaya, 60132, Indonesia

**Introduction:** Acute Limb Ischemia (ALI) is a condition where there is a sudden decrease in perfusion of the limbs involving thrombus and embolism, which threatens limb viability. One of the treatments is thromboembolectomy. In case ALI with gangrene, amputation can save the patient's life.

**Case Presentation:** We hereby report the case of a 66-year-old woman who suffered from acute limb ischemia with gangrene accompanied by atrial fibrillation and atrial flutter who underwent thromboembolectomy and above-knee amputation at our hospital. CT angiographic evaluation shows total occlusion along the left common iliac artery. The postoperative outcome was smooth and satisfactory.

**Conclusion:** Thromboembolectomy and above-knee amputation for acute limb ischemia with gangrene with atrial fibrillation and atrial flutter is a safe and feasible approach for treating this patient.

**Keywords:** knee amputation, atrial fibrillation, gangrene, acute limb ischemia, thromboembolectomy