

Research Article

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[Incidence and outcome of no flow after primary percutaneous coronary intervention in acute myocardial infarction](#)

Background: Primary percutaneous coronary intervention (PCI) of the infarct-related artery (IRA) is the most effective treatment modality in ST-segment elevation myocardial infarction (STEMI). Incidence of no flow is 8.8% - 10% in primary PCI of STEMI patients. Our aim was to study actual incidence and outcome of no flow patients.

Methods: Five hundred and eighty primary PCI patients were enrolled and evaluated from 2016 January to 2017 December.

We used drug eluting stents in all cases. Majority of our patients (> 90%) presented to emergency six hours after onset of symptoms. There were many patients where there was no flow even after mechanical thrombus aspiration and pharmacological vasodilator therapy. We have studied primary outcome (mortality) of no flow in those patients.

Results: There were 44 cases of no flow in our series (7.75%). Involvement of Left anterior descending artery (LAD) was in eighteen patients. Right coronary artery (RCA) was culprit in twenty four cases. Only two cases were seen in LCX territory. One month mortality rate in no flow group was 50% and 6.25% in successful recanalization group. One year mortality was 12.5% in successful recanalization group and 66% in no flow group.

Conclusion: Refractory no flow during STEMI intervention is associated with increased incidence of major adverse cardiovascular events (MACE).

There is no established strategy to solve this phenomenon.

Review Article

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[The mechanisms of cardiac myopathies, a kinetics approach: Leading review](#)

The normal adult heart is a well maintained machine that has a mechanism for growth replacement of the sarcomere that is lost by natural degeneration. This process ensures the heart has the strength of contraction to function correctly giving blood supply to the whole body. Some of the force of contraction of the sarcomere is transmitted to its major protein titin where its strength results in unfolding of a flexible section and release of a growth stimulant. The origin of all the cardiomyopathies can be traced to errors in this system resulting from mutations in a wide variety of the sarcomeric proteins. Too much or chronic tension transfer to titin giving increased growth resulting in hypertrophic cardiomyopathy (HCM) and too little leading to muscle wastage, dilated cardiomyopathy (DCM). HCM can ultimately lead to sudden cardiac death and DCM to heart failure. In this paper I show (1) a collection of the tension/ATPase calcium dependencies of cardiac myofibrils that define the mechanism of Ca²⁺ cooperativity. (2) I then reintroduce the stress/strain relationship to cardiomyopathies. (3) I then review the cardiomyopathy literature that contains similar Ca²⁺ dependency data to throw light on the mechanisms involved in generation of the types of myopathies from the mutations involved. In the review of cardiomyopathy there are two sections on mutations, the first dealing with those disrupting the Ca²⁺ cooperativity, i.e. the Hill coefficient of activation, leading to incomplete relaxation in diastole, chronic tension, and increased growth. Secondly dealing with those where the Ca²⁺ cooperativity is not affected giving either increased or decreased tension transfer to titin and changes in sarcomere growth.

Research Article

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[Femoral venous closure: A single-centre retrospective analysis in real world all comers with MynxGrip® vascular closure device](#)

Background: Vascular closure devices (VCD) are routinely used to achieve haemostasis following percutaneous arterial procedures. The extravascular polyethylene-glycol based MynxGrip® device (Cardinal Health) received FDA approval for use in the closure of femoral veins, but so far limited data is available on its use, especially with concomitant use of anticoagulants.

Method: This is a retrospective analysis of data from a single-centre on the effectiveness and complication rates following the use of the MynxGrip® device for femoral venous closure in patients undergoing diagnostic/interventional (temporary pacing during balloon aortic valvuloplasty, or electrophysiology) procedures utilising 5-7F sheaths.

Results: 85 patients (mean age 74 years) underwent femoral venous closure with the MynxGrip® device. 51.8% were male. The rate of concomitant anticoagulant or antiplatelet use was 52.9%. Device deployment was 100% successful with full haemostasis in all cases. There were no major vascular complications (bleeding, thrombosis, or infections). There was one case of a minor small venous hematoma which did not require treatment. The mean length of stay was less than 1 day (67.1% patients discharged the same day) and overnight stay only indicated by interventional procedure.

Conclusion: These data support safety and efficacy of the MynxGrip® device for femoral venous closure with same-day discharge, even with concomitant aggressive antiplatelet and anticoagulant use. It has the potential for use in other large bore venous access sites.

Review Article **Published Date:-2020-06-16 00:00:00**

[Fibrinolytic therapy with tPA failed because it was based on a flawed concept](#)

Fibrinolytic therapy has become synonymous with tissue plasminogen activator (tPA) based on the belief that tPA alone was responsible for natural fibrinolysis. Although this assumption was belied from the outset by disappointing clinical results, it persisted, eventually causing fibrinolysis to be discredited and replaced by an endovascular procedure. Since time to reperfusion is the critical determinant of outcome, which in acute myocardial infarction (AMI) means within two hours, a time-consuming hospital procedure is ill-suited as first line treatment. For this purpose, fibrinolysis is more fitting. The assumption that tPA is responsible for fibrinolysis is contradicted by published findings. Instead, tPA 's function is limited to the initiation of fibrinolysis, which is continued by urokinase plasminogen activator (uPA) and that has the dominant effect. tPA and uPA gene deletion and clot lysis studies showed the activators have complementary functions, requiring both for a full effect at fibrin-specific doses. They are also synergistic in combination thereby requiring lower doses for efficacy. A clinical proof of concept study in 101 AMI patients who were treated with a 5 mg bolus of tPA followed by a 90 minute infusion of prouPA, the native form of uPA. A near doubling of the 24 h TIMI-3 infarct artery patency rate was obtained compared to that in the best of the tPA trials (GUSTO). In further contrast to tPA, there were no reocclusions and the mortality was only 1% [1]. A sequential combination of both activators, mimicking natural fibrinolysis, holds promise to significantly improve the efficacy and safety of therapeutic fibrinolysis.

Research Article **Published Date:-2020-06-15 00:00:00**

[Long-term results for post-interventional systemic heparinization following angioplasty of peripheral vessels](#)

Objective: The long-term outcome of percutaneous transluminal angioplasties is mainly determined by restenoses, either by progression of the underlying disease or by intimal hyperplasia. Pharmacological substances on the one hand and the implantation of stents on the other have been developed with the intention of preventing precisely this complication. While patients are treated after PTA of peripheral vessels with different low-molecular-weight heparins, the indication for stent implantation is determined individually rather by experience. The aim of this study was to determine gender-specific risk factors of long-term outcome after percutaneous transluminal angioplasty (PTA) of peripheral vessels with or without stent implantation.

Methods: In the present study, we examined the long-term results of percutaneous transluminal angioplasty (PTA) of peripheral vessels. Between 2007 and 2017, in total, 3,276 patients underwent PTA with or without stent implantation in our clinic. All patients were treated postinterventionally for 48 hours with 25,000 IU heparin (Unfractionated Heparin (UFH), heparinsodium-Braun, 25,000 I.E./5 ml, 2 ml/h) monitored by the partial thromboplastin time and subsequently underwent a control investigation every 6 months. The endpoint of the study was determination of symptomatic stenosis larger than 50% that required reintervention.

Results: 239 (68.2% with mean age 68.02 years) male patients and 111 female patients (31.71% with mean age 62.92 years) were evaluated with complete follow-up. A total of 470 PTAs were performed on male patients and 213 on female patients in multiple interventions. The majority of patients at the time of treatment were in stage IIb according to the classification of Fontaine (81.6% of male patients and 68% of females). In our sample, peripheral arterial disease stage III and IV according to Fontaine classification occurred twice as frequently in female patients as in male patients (stage III in 12.6% in female versus 6.1% in male, and stage IV in 18% in female versus 8.9% in males). In both groups, the femoral superficialis artery was most frequently dilated (64 cases, 30% in female and 155 cases, 32.9% in male), followed by the iliacal communis artery (46 cases in female and 99 cases in male, both with 21.5%). A balloon angioplasty of the tibialis anterior and posterior arteries was performed twice as frequently in female patients as in male patients (28 cases with 13.1% of tibialis ant. artery in female versus 32 cases with 6.8% in male patients, and in 17 cases with 7.9% of tibialis post. artery in female versus 16 cases with 3.4% in male patients). In this study, without consideration of gender, patency rates of 79% after 2.5 years, 67% after 5 years, 49% after 7.5 years and 37% after 10 years were determined for PTA without stent implantation. Between the 7th and 10th year in follow-up, the cumulative patency rates for stent implantation was 49%, whereas it was 31% for PTA alone. The results of this study show that the stent assisted PTA's of comm. artery and external iliacal artery are significantly independent of risk factors better than the femoral vessels, and these in female patients better than in male patients. Male patients do not benefit significantly from stent implantation in the long term. As the COX1 and II regression analyses show, gender-linked results are most evident for renal insufficiency and diabetes mellitus, and less pronounced also for the number of open lower leg vessels.

Conclusion: Under consideration of gender and risk factors, while male patients with diabetes mellitus, renal insufficiency and/or poor run-off did not benefit from stent implantation in the long-term, female patients with similar risk factors showed higher patency rates after stent therapy. In addition, the long-term results after PTA of femoral superficialis artery and poplitea artery are significantly worse than PTA of the pelvic vessels in both genders.

Research Article

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[Assessment of cardiovascular and renal functions during treatment with *Desmodium adscendens* therapy](#)

Desmodium adscendens is a rain forest medicinal herb used in managing quite a number of medical conditions. Its efficacy in the treatment of several diseases has made it a first line herb for doctors, especially in managing all forms of spasm. It is however common knowledge that some of these medicinal herbs impact severely on the normal functioning of some vital organs of the body during their administration. The present study was carried out to assess the renal and cardiovascular performance in subjects undergoing treatment with *Desmodium adscendens* with a view to advising against its indiscriminate use. The parameters used for the assessment of renal functions were serum creatinine and urea concentrations and their clearance. Also, changes in electrolyte concentration of Sodium, Potassium and Chloride concentration were used to assess cardiovascular performance. The histology of the kidney and heart tissues was also done to determine if the extract has impact on the cyto-architecture of the organs. Twenty-four (24) wistar rats were used for the experiment. The rats were grouped randomly into four groups (n = 6). Group 1 served as control, and the rats in the group were given normal rat feeds and water. Group 2 served as low dose group, and rats in this group were administered with low dose of extract 300 mg/kg. Group 3 served as medium group, and rats in this group were treated with medium dose of extract, 450 mg/kg. Group 4 served as high dose group, and rats in this group were treated with high dose of extract 600 mg/kg. The extract was administered for 28 days. Result showed that the extract did not impact negatively on the normal function of the renal and cardiovascular system of the treated groups, rather it enhanced their performances. It can therefore be concluded that the extract is beneficial to renal and cardiovascular functions if used within the treatment dosage.

[Prognosis of peripartum cardiomyopathy in sub-Saharan Africa \(Burkina Faso South-West PPCM register\)](#)

Peripartum cardiomyopathy is one of the curable cardiomyopathy. It's a severe and frequent disease arising among women of childbearing age. Its evolution in the long-term among some patients leads to chronic heart failure. Our study aims to determine from a prospective cohort, the factors associated with the non-recovery of myocardial function upon 12 months of diagnosis. Sociodemographic, clinical and echocardiographic data were collected at the time of diagnosis and then in months 3, 6 and 12. The outcome was the non-recovery of myocardial function at one year, defined by a left ventricular ejection fraction (LVEF) below 50%. 60 patients were analyzed after 12 months of follow-up. Mortality was about 13.3% and recovery rate of myocardial function reached 42.3%. After logistic regression, delay diagnosis and observance were the factors related to non-recovery of myocardial function.

Review Article**Published Date:-2020-05-02 00:00:00**[Our experience with single patch repair of complete atrioventricular septal defects](#)

Background: Various surgical methods have been utilized in the management of complete atrioventricular septal defects (CAVSD). Early intervention and achievement of a competent left atrioventricular valve are the key factors for successful treatment.

Methods: A total of 66 patients with complete atrioventricular septal defect have been operated in a tertiary care center. Patient group consisted of 28 males and 38 females with an average age of 6.2 ± 3.3 months. Ventricular and atrial defects were repaired generally with single-patch technique using autogenous pericardium.

Results: Preoperative catheterization and angiography was performed in 41 patients. Single patch and modified single patch techniques were preferred in 57 and 9 patients respectively. The average duration for respiratory support, intensive care unit stay and discharge from hospital were 36 ± 49.3 hours, 4.1 ± 1.9 days, and 10.1 ± 3.3 days respectively. In the left atrioventricular valve mild, moderate and severe regurgitation were detected in 44 (66.6%), 17 (25.7%) and 2 (3%) patients postoperatively. No regurgitation was determined in 3 patients (4.5%). Two cases ended up with mortality (3%).

Conclusion: Single patch repair technique can provide satisfactory surgical outcomes in patients with complete atrioventricular septal defect.
