



## COMPARISON OF SURGICAL VERSUS MEDICAL MANAGEMENT OF ACUTE AND CHRONIC LIMB ISCHEMIA: A PROSPECTIVE STUDY.

### Medical Sciences

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### ABSTRACT

Endovascular approaches for limb salvage in critical limb ischemia (CLI) offer the potential of reduced cardiovascular risk compared to open procedures. To date, no study has compared open and endovascular interventions regarding cardiovascular events (CVE) using a cardiac risk stratification system. This study sought to determine if endovascular interventions in CLI patients reduced CVE when compared to open treatment, while standardizing cardiac risk using the Revised Cardiac Risk Index (RCRI).

### KEYWORDS

Acute limb ischemia (ALI), Hybrid revascularization (HyR), chronic limb ischemia (CLI)

#### BACKGROUND:

During the course of management of limb ischemia, there is need of embolectomy some times. The patient responded well to medical management too. This study is intended to study the timing of surgical intervention, complications related to it as well as advantage and disadvantage of both. Acute limb ischemia (ALI) of the lower extremity is a potentially devastating condition that requires urgent and definitive management. This challenging scenario is often treated with endovascular, open surgical, or hybrid revascularization (HyR) in an urgent basis, but the comparative effects of such therapies remain poorly defined. The purpose of this study was to compare the outcomes of endovascular, open surgical, and HyR for ALI in the contemporary era.

#### PATIENTS AND METHODS:

Between July 2017 to September 2018, 200 consecutive patients undergoing treatment for limb ischemia were included in this prospective cohort study. All the preoperative and postoperative parameters were noted in the described format including age of patient, duration of disease, NYHA status, rhythm, cardiac illness etc. Simultaneously a note was made of all the patients pre-operative characteristics, aetiology, associated cardiac anomalies, echocardiogram findings, cardiac catheterization and angiography data (if performed), intra operative details, Comparison of medical versus surgical intervention and its outcome, post operative course, follow up and follow-up echocardiographic data. 200 patients between July 2017 and September 2018 who underwent an endovascular, open surgical, HyR for ALI deemed at high risk of limb loss if not treated within 24 hr (Rutherford class IIA or IIB) or medical therapy for chronic limb ischemia (CLI). A propensity score weighted analysis was performed controlling for demographics, medical history, and procedure type for patients. The primary outcomes were 30-day morbidity and mortality.

#### RESULTS-

Two hundred patients of limb ischemia {acute/chronic} were included in this study. They reported to our hospital between July 2017-September 2018. We selectively divided the patient into two groups, suitable for each category. It was found that the patient of both the category responded well. A total of 8 patients underwent endovascular revascularization (ER;  $n = 8$ ), open surgical revascularization (OSR;  $n = 62$ ), or hybrid revascularization (HyR;  $n = 60$ ) for ALI rest of them undergone medical therapy for CLI. The mean age was similar across revascularization technique with an increased predominance of male gender in open surgery cohort. Co morbidities for all groups were consistent with peripheral arterial disease. The most common endovascular procedures were angioplasty (93%) and thrombolysis (49.8%), whereas the most common surgical revascularization was ileo-femoral bypass (22.8%) and thrombectomy (19.0%); ER as compared with OSR and HyR procedures was associated with less transfusion (OSR versus ER, odds ratio [OR] 2.7; HyR versus ER, OR 2.8;  $P < 0.001$ ) and major amputation (OSR versus ER, OR 3.4; HyR versus ER, OR 4.0;  $P < 0.001$ ) within 30 days of intervention. There

was no difference in 30-day freedom from reintervention, myocardial infarction (MI), or mortality.

**Conflict of interest: - We do not have any conflict of interest**

#### CONCLUSIONS-

Timely intervention is the key factor for success, both the group responded well to therapy. No gross differences between outcomes following medical or surgical intervention in the respective category patient. Though surgical intervention has risk of reperfusion injury, but judicious use of its in ALI saves the life.