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# FACTORS FAVORING SUCCESSFUL ILIAC ARTERY ANGIOPLASTY IN LOWER LIMB ISCHEMIA

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**ABSTRACT**

**Introduction:** Aim is to study the factors favoring successful iliac artery angioplasty in patients with lower limb ischemia
**Material and Methods:** It is a prospective study done in 30 patients whom had underwent iliac artery angioplasty for lower limb ischemia.
**Results:** Major Outcomes were patency rate and limb salvage which were 80% (24/30) and 90% (27/30) respectively. Other outcomes taken into consideration were ulcer healing, Ankle-Brachial index improvement and improvement in claudication pain/ distance.
**Conclusion:** Diabetic patients and older age individuals had high successful outcomes for iliac artery angioplasty in lower limb ischemia.

**KEYWORDS :** lower limb ischemia, iliac artery angioplasty

## INTRODUCTION:

Management of iliac artery occlusive disease has undergone significant changes in the last few years. In the past most cases were treated with open bypass procedures with higher morbidity but now with recent advancements most of the procedures are endovascular interventions inform of iliac angioplasty/ stenting. These endovascular interventions carry less morbidity and mortality for these patients with multiple comorbidities (1, 2). These procedures has also achieved long-term limb salvage and patency rates similar to those of open surgery, but with much lower morbidity and mortality rates (3-5). For above reasons iliac angioplasty and stenting has now became treatment of choice in most patients with iliac artery disease. But there are factors which affect outcome of iliac intervention results which should be thoroughly analyzed for every individual patients before proceeding. Such factors are analyzed and discussed in this study for successful outcome (6).

## METHODOLOGY:

- Study Design : Prospective Study;
- Study Centre : Stanley Medical College and Hospital;
- Study Duration : Three Years ( 2015-2017)
- Study Procedure**:** 30 patients who have undergone iliac artery angioplasty for lower limb ischemia in the vascular surgery department were enrolled . Proper history, thorough clinical examination and investigations in form CT angiogram were done to all patients.
- Inclusion: Patients undergone iliac artery angioplasty for lower limb ischemia iliac artery angioplasty were included in the study.
- Exclusion: redo procedures, conversion to open bypass and hybrid procedures were excluded.
- Follow-up: Average followup period was 6 months
- Factors studied were Age, sex, Hypertension, Diabetes mellitus, coronary artery disease, kidney disease, smoking, alcoholism and ischemia severity (claudicants / critical limb ischemia)

**Table 1: FACTORS TAKEN FOR ANALYSIS**

| S.NO. | FACTORS | NUMBER/ |
|---|---|---|
| 1 | Age, years | <50=12 (40%) |
| | | >50=18 (60%) |
| 2 | male | 40 (100%) |
| 3 | Hypertension | 15 (50%) |
| 4 | Diabetes mellitus | 20 (66.6%) |
| 5 | Heart disease | 3 (10%) |
| 6 | Chronic kidney failure | 3 (10%) |
| 7 | Tobacco use | 15 (50%) |
| 8 | Alcoholic | 20(66%) |
| 9 | Critical limb ischemia | 14 (46%) |

## RESULTS AND DISCUSSION:

All patients studied were male. Patency and limb salvage with respect to various factors were analyzed and discussed in below.

### Patency:

Patency rate in this study were 80% (24 out of 30 patients).

**Table 2: Patency With Respect To Age Of Patients**

| | PATENT ILIAC ARTERY | OCCLUDED ILIAC ARTERY |
|---|---|---|
| AGE: < 50 YEARS | 8/ 12 – 66.7% | 4/ 12 – 33.3% |
| AGE : > 50 YEARS | **16/ 18 – 88.8%** | 2/ 18 – 11.1% |

Patients with higher age group had higher patency of 88% against 66% for less than 50 years of age. These show older age people having atherosclerotic lesions has good result in angioplasty when compared to younger age individuals with smoking, vasculitis and hypercoaguable conditions for etiology (7). Hence these younger age patients require control of their conditions with proper medications before going for angioplasty.

**Table 2: Patency With Respect To Diabetic Status**

| | PATENT ILIAC ARTERY | OCCLUDED ILIAC ARTERY |
|---|---|---|
| DIABETIC | **19/ 20 – 95%** | 1/ 20 – 5 % |
| NON DIABETIC | 5/ 10 – 50% | 5/ 10 – 50% |

Patients with diabetes had higher patency of 95% against 50% for non diabetes. These show diabetic patients with accelerated atherosclerotic plaques/lesions has good result in angioplasty(1,7).

### LIMB SALVAGE:

Limb salvage rate in this study were 90% (27 out of 30 patients), thus overall salvage itself very good owing to most of our patients had early intervention and referral.

**Table3: Limb Salvage With Respect To Age Of Patients**

| | LIMB SALVAGED | LIMB NON SALVAGED |
|---|---|---|
| AGE: < 50 YEARS | 10/ 12 – 83.3% | 2/ 12 – 16.7% |
| AGE : > 50 YEARS | **17/ 18 – 94.4%** | 1/ 18 – 5% |

Patients with higher age group had good limb salvage of 94.4% against 83.3% for less than 50 years of age. These show older age people having good patency with mostly of atherosclerotic etiology have high success in limb salvage than younger patients with non atherosclerotic cause like smoking, vasculitis and hypercoaguable states.

**Table 2: Limb Salvage With Respect To Diabetic Status**

| | LIMB SALVAGED | LIMB NON SALVAGED |
|---|---|---|
| DIABETIC | **19/ 20 – 95%** | 1/ 20 – 5 % |
| NON DIABETIC | 8/ 10 – 80% | 2/ 10 – 20% |

Patients with diabetes had limb salvage rates of 95% against 80% for non diabetes. These show diabetic patients although have high risk of infections have before limb salvage rates owing to good patency following iliac angioplasty.

## CONCLUSION:

This overall good patency and limb salvage rates favours endovascular interventions for iliac artery diseases especially very high success rates for older age and diabetic patients.

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