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STUDY ON CATHETER DIRECTED THROMBOLYSIS FOR ACUTE LIMB ISCHEMIA IN A SINGLE CENTRE

Surgery

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ABSTRACT

Introduction.
The purpose of this study is to assess the efficacy and outcomes of intra-arterial thrombolysis in the treatment of acute occlusions of the lower limb over a three year period.

Material and Methods. We analysed 17 patients who had been treated in our department. There were acute ischemias of stage I, IIa and IIb according to the Rutherford classification. The data prior to, and after thrombolysis was analysed. We used urokinase, Alteplase,tenectaplase as a thrombolytic agent..

Results. Most patients are males The main indications for treatment were class 2 ischemia . All patients were performed outpatient follow up. Technical success rate is 88%, patency is is (64%),limb salvage (76%),ABI improvement 76%,one patient underwent femorotibialbypass surgery , no mortality seen.

Conclusions. Intraarterial thrombolysis is an effective treatment method in acute limb ischemia for selected patients .long duration of symptoms multiple comorbities with smoking history increase the risk for amputation

KEYWORDS

thrombolysis, limb

INTRODUCTION

Acute limb ischaemia (ALI) caused by arterial thrombosis of native vessels is a common.. Current recommendations suggest that CDT be used in patients with Rutherford class I and class IIa limb ischemia (6, 1). Limb ischaemia by arterial thrombosis accounts for 85% of arterial occlusions and it occurs more oftenin the lower extremities. Despite the advancement of the diagnostic and therapeutic tools available today, ALI was associated with elevated major amputation and mortality rates (10-20%), usually because of comorbidities (5, 3). There are absolute and relative contraindications for CDT including ongoing bleeding, intracranial haemorrhage, trauma and surgery within past 10 days.

AIM OF THE STUDY

The aim of this study was to evaluate efficacy and outcomes with regard to limb salvage, bleeding complications and survival rate in acute limbs with thrombosis over a three -year period.

MATERIAL AND METHODS

All vascular patients admitted to Govt Stanley Medical College Hospital were analysed between 1 January 2017 and 31 December 2018. Patient's records were analysed. All complications were noted . A full blood count, activated partial prothrombin time (APPT), urea, a creatinine and were performed before and after thrombolysis. Intra-arterial, catheter-directed thrombolysis access was achieved through puncture of the common femoral artery for infrainguinal thrombolysis . The lytic agent used was rtPA by intraarterial catheter directly in to the thrombus The total dose of rtPA was decided individually depending on the duration of symptoms, the extent of the arterial occlusion, the degree of ischaemia, co-morbidities and the patient`s age. The thrombolytic procedure started with a bolus dose of 10 mg rtPA, followed by one to two mg/h for a complete dose of 50mg. Control angiography was performed every 24 h, and depending on the finding suspension of thrombolysis, repeated CDT or operative therapy was performed. The complete reestablishment of the occluded arteries without major amputation and death was considered to be a successful clinical outcome.

MATERIAL AND METHODS

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DISCUSSION & RESULTS

We analysed 17 patients treated in our department during 2015 to 2017 .

Table 1 CLINICAL CHARACTERISTICS OF PATIENTS

Variable	Value
Age, years	<40=17%(3), 40-50=41%(7) >50=41%(7)
male	16 (94%)
Hypertension	7(41%)
Diabetes mellitus	14(82%)
Heart disease	3 (17%)
Chronic kidney failure	1(5%)
Tobacco use	15 (88%)
Alcoholic	8(47%)

Based on our study male sex with DM &HT ,Those smoking alcoholic having high risk for acute limb ischemia, both side equally involved class 2 is commonest presentation

Table 2 & 3 perioperative data

Variable	Value
Class 1	2 (11%)
Class 2 a	5(29%)
Class 2 b	10 (58%)
antegrade common femoral artery	14(82%)
Retrograde posterior tibial	3(17%)

hematuria	2(11%)
Forefoot amputation	2 (11%)
ABI improvement	13(76)
BK amputation	1 (5%)
AK amputation	3 (17%)
Patency	11(64%)
Limb salvage	12(70%)

The mean ABI was greater after surgery than before surgery.Technical success rate is 88%, patency is (64%),limb salvage (76%),ABI improvement 76%,one patient underwent femorodistalbypass surgery

In our study amputation free survival rate is 76% comparable to Rochester trail (75%) ,TOPAS trial 71%.

In our study, no mortality seen were lesser in comparison with the STILE trial (4%), Cragg et al. trial (8) (2%) and other recently published trials (12, 13).

Factor associated with amputation

Age	<50-1 , >50-3
Smoker	4/4
Diabetic	3/4
Hypertensive	¾
CKD	1/4

Increasing age ,diabetic & hypertensive (75%) smoker(100%) may have increased risk for amputation…

CONCLUSIONS

Intraarterial thrombolysis is an effective treatment method in acute limb ischemia for selected patients as long as accurate procedural monitoring is ensured. Thrombolysis often leads to discovery of the underlying vascular lesions..long duration of symptoms multiple comorbities with smoking history increase the risk for amputation.

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