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### RESEARCH ARTICLE

#### PEDIATRIC SADDLE EMBOLISM – A RARE CASE REPORT.

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#### Abstract

Acute limb ischemia in pediatric patients is rare and may lead to limb loss and life long complications. So far many publications have been made on pediatric acute limb ischemia and its management. But no case report have been published on pediatric saddle embolism. Our patient is a four year old male child who presented postoperatively after primary closure of ASD with Bilateral acute lower limb ischemia due to saddle embolism and managed successfully by bilateral transfemoral embolectomy.

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#### Introduction:-

Acute limb ischemia is a potentially catastrophic event that can lead to limb loss if timely revascularization is not done<sup>(1)</sup>. Pediatric acute limb ischemia is an infrequent and devastating condition. It is usually post-traumatic, iatrogenic or due to hypercoagulable state. Most of the cases were thrombotic and managed with anticoagulation and thrombolytic therapy<sup>(2,3,4)</sup>. No specific guidelines exist for the use of thrombectomy/embolectomy in children, but the general consensus is that the recurrence rate and risk of long term vascular damage is high<sup>(5)</sup>. This is the first case report on pediatric bilateral acute lower limb ischemia due to saddle embolism managed successfully with bilateral transfemoral embolectomy.

#### Case Report:-

A 4year old male child presented after primary closure of ASD on 4<sup>th</sup> postoperative day with C/O sudden onset of pain in both lower limb and H/O chillness of both lower limb, fatigue and palpitation for one day. On examination both lower limb were cold below knee with minimal sensory loss and preserved motor function. Pulse examination showed normal bilateral upper limb and aortic pulse with absent bilateral lower limb pulses.

Hand doppler examination showed absent arterial flow and audible signals on venous doppler in both lower limb. Vitals were stable except for tachycardia and tachypnea. Blood investigations were normal. Color duplex showed anechoic thrombus at aortic bifurcation. ECHO showed LA clot.

Diagnosed as a case of acute bilateral lower limb ischemia, class 2a – saddle embolism with source from LA clot (secondary to ASD closure). In view of threatened limb, patient was taken up for emergency surgery. Under general anesthesia, with full heparinization, bilateral transfemoral embolectomy was performed using 2Fr fogarty catheter.

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Per-operatively vessels were flushed with heparinized saline. Since calf was supple, fasciotomy was not done. Embolic material was sent for histopathological examination and culture sensitivity.



**Fig 1:-**Exposed femoral artery



**Fig 2:-**B/L Transfemoral embolectomy



**Fig 3:-**Retrieved embolus

Postoperatively bilateral lower limb pulses were palpable till ankle level. Heparin infusion was started and continued for five days maintaining aPTT two times above normal. Patient was started on Acitrome 2mg OD from first postoperative day. On 5<sup>th</sup> postoperative day, after attaining an INR of 2 – 3, heparin infusion was stopped and oral anticoagulation was continued and advised life long anticoagulation. Culture showed no growth. HPE report showed embolic material.

### **Discussion:-**

Acute limb ischemia in pediatric population is a rare event. Etiology include trauma, embolic source from heart, iatrogenic, hypercoagulable state. Investigations include ABI( Ankle Brachial Index), Color duplex and Conventional angiography.

There is paucity of data in the use of ABI in emergency setting in pediatric patients. This is due to variations in ABI with age<sup>(6)</sup>. Color duplex imaging is however the investigation of choice in emergency setting due to its noninvasive nature and easy availability<sup>(7)</sup>. Although conventional angiography has the potential of imaging combined with delivery of localized thrombolytic therapy<sup>(8)</sup>, the need for an alternate site for vascular access limits its use.

Most of the cases were managed with anticoagulation and thrombolytic therapy. Surgery is generally not indicated because of extensive collateralization and complex situation in pediatric patients due to very small vessel size<sup>(9)</sup> and being more prone to vessel spasm<sup>(10,11)</sup>. In pediatric patients with subclinical, non limb threatening and limb threatening ischemia, a trial of non operative management<sup>(12)</sup> with appropriate anticoagulation / thrombolysis is justified due to less favorable outcome(such as increased per operative surgical and anesthetic morbidity and mortality) with surgery in this age group. However surgery should be performed when limb loss is imminent and therapeutic anticoagulation/ thrombolysis has failed.

Since our patient presented with imminent limb loss due to embolic source from heart, we did emergency surgery.

**Conclusion:-**

Saddle embolism is very rare especially in childhood and results in major threat to limb and patient survival. Hence early recognition and treatment are essential. So far no case report have been published on acute limb ischemia due to saddle embolism in pediatric patients. This is the first case report on pediatric saddle embolism.

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