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Amputation of ischaemic limb due to arterio-venous emboli manage by fogarty embolectomy has better prognosis than manage by LMW Heparin

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Abstract

Extraction of arterio-venous emboli using the Fogarty catheter has been widely accepted technique for embolectomy but it also give better circulatory function in amputated limb

Case Presentation: This report describes arterio-venous occlusion due to emboli in upper or lower limb has better circulatory function in amputated limb after thromboembolectomy with a Fogarty catheter. It was managed successfully using an endovascular technique consisting of selective catheterization and coil embolization.

Conclusion: Endovascular technique can be successfully used to prevent further ischaemia of limb and has better circulatory function in amputated limb than manage by LMW Heparin
An interesting case is presented and its management discussed below.

Keywords: Arterio-venous, emboli manage, fogarty embolectomy, LMW Heparin

Introduction

Case Report

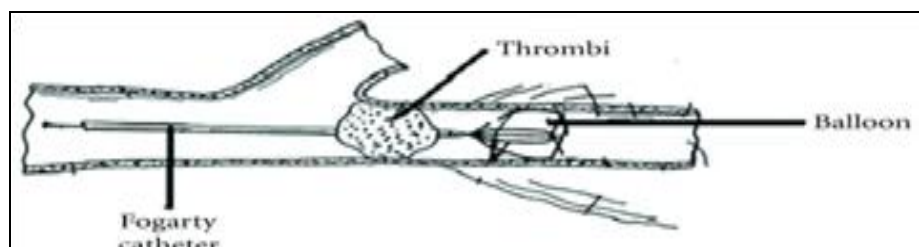
Case 1

A 80-year-old woman developed acute numbness and coolness of her left hand on 6th April 2016 which was sudden in onset with exact etiology not known. for that she consult local doctor at Bhagalpur. But within 3 day she develop severe pain & bluish discoloration of figures of left hand. On 11th April 2016 Colour doppler of both upper limb done. Right upper limb shows normal doppler study while left upper limb shows loss of triphasic patterns in subclavian, axillary & brachial artery. And also there is loss of diastolic flow in left upper limb probabely due to arterio-venous occlusion. As patient start developing gangrene in left forarm she came to AIIMS, Patna for further management on 13th April. She has h/o DM, HTN.

On examination there was blackish discoloration of left forarm. There was absent digital, radial and brachial pulse. Fingure movement absent. And with passes of time patient was going in septicemia and has electrolyte imbalance. So on on 23rd April guillotine amputation with elbow disarticulation was done. But febiabile brachial artery flow and its pulsation partially appricated. Wound was not much healthy.

So on second sitting 12th may 2016 supracondylar transhumeral amputation along with freshing of wound done. But still brachial artery flow & pulsation partially appricated. For that Catheter or balloon embolectomy was done.

Typically this is done by inserting a catheter with an inflatable balloon attached to its tip into an artery, passing the catheter tip beyond the clot, inflating the balloon, and removing the clot by withdrawing the catheter. The catheter is called Fogarty, named after its inventor Thomas J. Fogarty.



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Fogarty arterial embolectomy catheter is a device developed in 1961 by Dr. Thomas J. Fogarty to remove fresh emboli in the arterial system^[1]. It consists of a hollow tube with an inflatable balloon attached to its tip. The catheter is inserted into the blood vessel through a clot. The balloon is then inflated to extract it from the vessel.^[2] It is available in different lengths and sizes, and is often colour coded by size.^[3] Because it is less invasive than ordinary surgery, it reduces the chance of postoperative complications. It is also used for removal of adherent material or fibrous material, by Fogarty adherent clot catheter. Postoperative patient has better wound healing.

Case 2

One year back on 10th May 2015, a 60-year lady has presented with right leg pain in AIIMS, Patna with chief complaint of acute numbness and coolness of her right foot which was sudden in onset. The right popliteal and pedal pulses were absent, and an arteriogram showed a normal iliac and superficial femoral arteries with occlusions of the popliteal and tibial arteries. She has history of DM, HTN and two episodes of CVA



Pain, coolness and numbness increases day by day. Over the period of time, she began to experience progressive calf claudication associated with falling ankle pressures. A repeat arteriogram revealed diffuse narrowing of the superficial femoral and popliteal arteries. Initially believing that the diffuse tubular narrowing was possibly layered thrombus, we began a regional low-dose thrombolytic infusion. But no improvement in the appearance of the femoral or popliteal arteries.

Finally limb goes into ischemia that led to gangrene of right leg due to arteriovenous emboli treated simply with transfemoral supracondylar amputation without interventional embolectomy. And was only on LMW heparin which causes prolonged wound healing time.

Conclusion

The Fogarty balloon application technique is safe and useful for the removal of residual thrombus and shows better wound healing and circulation of amputated limb than the case use of LMW heparin.

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