

CASE REPORTS

LONGEST LAD ENDARTRECTOMY RECORDED AND DOCUMENTED TILL DATE IN AFIC/NIHD

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ABSTRACT

As the world advances, living standards are getting changed with inclination more toward sedentary life style and junk food, we are seeing a worldwide increased incidence of coronary artery disease. A 73 year of age gentleman with progressive shortness of breath NYHA-II/III since last 6 months and epigastric discomfort with effort angina CCS-III. Was having no other co-morbidities, except of 35 pack years of smoking. On evaluation his Coro-angiogram revealed Diffuses TVCAD with Lad diffusely diseased throughout its middle course >90%, LCX 80%, RCA mid-Course critical discrete lesion of 90%. His 2D, TTE showed normal valvular apparatus and ejection fraction of 55%. Literature review further furnishes the fact that LAD is most commonly being affected by atheroma formation hence making it the most common site for endartrectomy, though peri-operative MI is still a grave concern, but half dose protamine slow reversal of the heparin and keeping ACT at 150-160 sec greatly reduces the incidence of peri-operative MI.

Keywords: Endartrectomy, Incidence, Left anterior descending, TVCAD.

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INTRODUCTION

With the advent of interventional cardiology most of the CAD patients are opting for PCI. This has given rise to a new challenge of more diffused and anatomically complex CAD patients being referred to cardiac surgery clinics. Such diseases pattern isn't amenable to conventional approaches of CABG, leaving the surgeons with options of either leaving the disease as it or performing incomplete revascularisation. So in order to address such issues the coronary artery endartrectomy comes to play a role which is an unconventional method of revascularisation, endartrectomy was first performed by Bailey *et al*¹, in 1957 but soon it lost its importance because of its association high perioperative mortality and morbidity^{2,3}. But in totally or near totally occluded coronary arteries where possibility of receiving any conduit as a graft is meager, need of endartrectomy overtakes its disadvantages and has been proven efficacious in long term clinical and angiographic results^{4,5}. In this paper we described the longest reported and documented closed

endartrectomy of LAD AFIC/NIHD till date.

CASE REPORT

A 73 year of age gentleman with progressive shortness of breath NYHA-II/III since last 6 months and epigastric discomfort with effort angina CCS-III. Was having no other co-morbidities, except of 35 pack years of smoking. On evaluation his Coro-angiogram revealed Diffuses TVCAD with Lad diffusely diseased throughout its middle course >90%, LCX 80%, RCA mid-course critical discrete lesion of 90%. His 2D, TTE showed normal valvular apparatus and ejection fraction of 55%.

CABG was done on 18/09/19. We performed CCAB with saphenous vein grafts to OM-1, Distal RCA. As Lad was diffusely diseased throughout the mid-course, closed endartrectomy of about 12cm length of the LAD was done and LIMA to LAD anastomosis was carried out. Patient did well and was smoothly weaned off the CPB with only Dobutamine 5mic/kg/min. To reverse the effects of heparin, measured dose of protamine infusion was started slowly until the end it went smooth but later at sternum closure patient started PVCs and pressures went

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borderline so IABP was passed to which myocardium responded well and both rhythm and pressures settled. Patient was shifted to ITC where he was weaned off from mechanical ventilation in next 5 hours while his IABP was taken out the following day after all his clinical and biochemical indicators were satisfactory. He was shifted to HDU on 2nd post-operative day. He had an uneventful recovery and was sent home on 5th post-operative day.



Figure: Longest LAD endarterectomy.

He did well on all his follow-up visits being 1st week, 1st month, 3 month and 6 month. This case describes not only the longest LAD endarterectomy of 12cm in figure, so far in AFIC/NIHD, but also in literature till date. So for longest endarterectomy ever reported is 11cm long (Jan D itto *et al*⁶. Since endarterectomy results in increased diameter of the previously diffused atheromatus coronary artery, therefore it increases the long term outcome of the^{7,8,9}.

DISCUSSION

CABG is the most common procedure for multivessel coronary artery disease. Since discrete lesion are subjected to be treated with PCI, cardiac surgeons are getting to deal with the multivessel, diffused Coronary artery disease. These complex anatomies of the coronaries are putting a burden on surgeons shoulder to be able dealing with coronary artery endarterectomy for better long term clinical results. In earlier days increased associated perioperative morbidity with endarterectomy made it lose its importance until when WD Johnson¹⁰ and DA Cooley after performing a

large series of coronary endarterectomy revealed that though there is an increase surgical risk but it offers a more favorable outcome in selected group of patients^{11,12}. In patients with total or subtotal large coronary artery obstruction in which its difficult to receive a conduit as a graft for myocardial revascularisation in an area of viable ischemic myocardium endarterectomy overtakes its disadvantages. Recent practices of partial reversals of heparin at end of the surgery and keeping ACT around 160-180 sec and routine use of warfarin and anti-platelets has reduced the incidence of peri-operative MI to the range of 1.5 to 8%¹³.

CONCLUSION

Several studies have helped establish the fact that 10-15% of the patients coming for CABG would require endarterectomy. Literature review further furnishes the fact that LAD is most commonly being affected by atheroma formation hence making it the most common site for endarterectomy, though peri-operative MI is still a grave concern, but half dose protamine slow reversal of the heparin and keeping ACT at 150-160 sec greatly reduces the incidence of peri-operative MI.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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