



Case Report

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### **A Cat Has Nine Lives.**

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### **Abstract**

*The umbrella of coronary artery disease has many risk factors and complications associated with it. However, uncontrolled risk factors and complications not directly related to coronary artery disease is not just difficult to manage but under-reported too. Here we describe a case of patient who had nine life – threatening complications which were managed by team approach. The complications he had were- Uncontrolled Hypertension (presented as Hypertensive emergency), uncontrolled blood glucose levels (with impending diabetic ketosis), flare of psoriasis, acute anterior wall myocardial infarction, ventricular tachycardia, severe left ventricular dysfunction with heart failure, upper gastrointestinal bleeding with Dieulafoy's Lesion, triple vessel disease with challenging coronary artery bypass surgery, and finally his demanding management with anti-coagulation. Now, the patient is doing well and is under close follow up.*

### **Introduction**

We present a rare case of 68 years male who had uncontrolled hypertension and diabetes presented with anterior wall myocardial infarction with heart failure and ventricular tachycardia. On coronary angiography he had TVD, but however before any revascularisation he had severe upper GI bleed with hemodynamic compromise. His emergency endoscopy revealed Dieulafoy lesion, which was treated by coagulation.

After stabilisation he was posted for CABG, however he had diffuse narrowing of left anterior descending artery (LAD) for which different revascularization technique was used. Surgical treatment of left anterior descending artery (LAD) with complex and diffuse atherosclerotic lesions, is a challenging situation for the cardiac surgeons<sup>1</sup>. Coronary blood flow can impair and may cause major problems when long segmental stents are used in diffusely diseased LAD. However, the conventional surgical revascularization techniques cannot provide adequate blood supply to diffusely diseased coronary arteries<sup>2</sup>. However, different revascularization techniques of LAD, using left internal mammary artery (LIMA) or autologous vein as an onlay patch with or without endarterectomy, have been introduced to provide complete myocardial revascularization<sup>2,5-8</sup>.

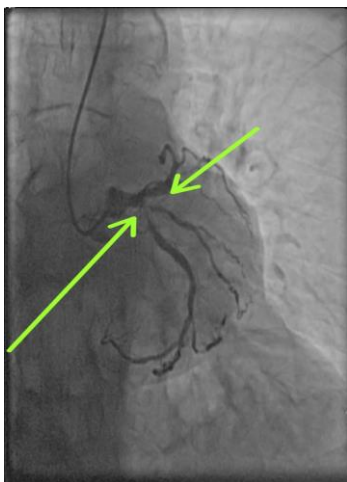
### **Learning objectives**

By reporting this case we want to demonstrate the multi-disciplinary team approach to treat a complex patient who has multi-organ involvement. Team approach is regarded as best approach in tertiary care centres for better management of patients.

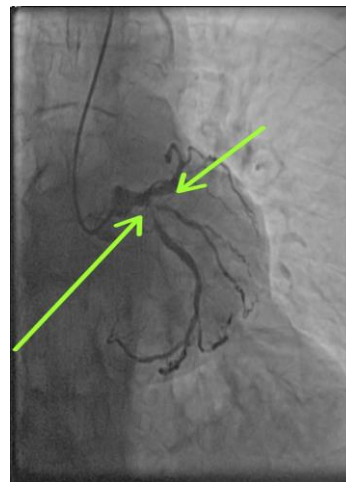
## Case Report

68 years patient who had nine life – threatening complications which were managed by team approach. He presented with Hypertensive emergency, with impending diabetic ketosis, flare of psoriasis, acute anterior wall myocardial infarction subsequently he was thrombolysed with fibrinolytic agent at peripheral center. During fibrinolysis he had ventricular tachycardia, which was managed by conservative management. However, he had failed thrombolysis in the form of rising ST-T changes on ECG and persistent chest pain. Considering the emergency and hemodynamic compromise of the patient he was referred to our center, he was taken for emergency angiography and rescue angioplasty. His 2D echo showed severe left ventricular dysfunction. His CAG showed TVD with diffuse atherosclerotic narrowing of culprit vessel LAD. However, before any revascularization was planned, patient had severe bout of hematemesis with refractory hypotension. He was posted for emergency UGI scopy with blood and blood product replacement. upper gastrointestinal bleeding with Dieulafoy's Lesion, for which immediate glue treatment was done. He was stabilised with adequate balance between anticoagulant – antiplatelets management and bleeding risk. His coronary anatomy was not favourable for angioplasty and due to diffuse nature of disease his CABG was challenging too. However, with team approach his CABG was done with reconstruction of a diffusely diseased left anterior descending coronary artery (LAD) with saphenous vein patch. LAD was diffusely diseased and a suitable area for construction of an anastomosis with the LIMA could not be found, the LAD is opened, and a 12mm area is subjected to endarterectomy. Direct visualization of all endarterectomy edges is performed, rather than resorting to "blind" traction on the atheromatous plaque. After completion of the endarterectomy, a SV patch is opened longitudinally, with orientation appropriate to its expected blood flow. The vein graft is then tailored to accommodate arteriotomy extension into the diagonal arteries and sewn in place using 6-0 continuous polypropylene suture. Trimming the width of the SV patch is done to avoid the creation of a patulous LAD lumen. The resultant reconstructed LAD system is depicted in Figure.

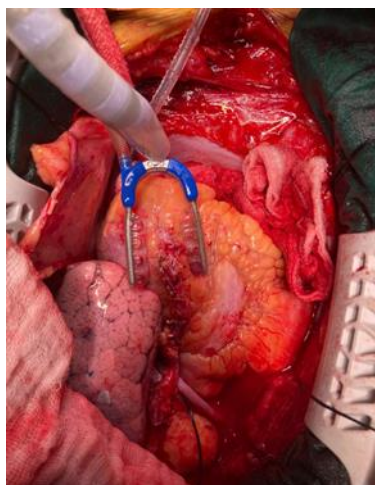
Patient was extubated on table, and he had uneventful recovery. He was put on single antiplatelet with warfarin with close PT-INR monitoring.



**Image 1** – showing critical coronary artery disease



**Image 2** – showing intra-op procedure



**Image 3** – showing end arterectomy of LAD



## Discussion

Dieulafoy lesion is a developmental vascular malformation of the gastrointestinal tract (GIT). It is an enlarged submucosal blood vessel that bleeds in the absence of any abnormality, such as ulcers or erosions. The signs and symptoms are related to blood loss, either due to intermittent or massive gastrointestinal haemorrhage.

To avoid the complications associated with this condition, it must be promptly diagnosed and treated. A Dieulafoy lesion is an enlarged submucosal blood vessel that bleeds in the absence of any abnormality such as ulcers or erosions. Most of the lesions arise in the stomach at the lesser curvature, within 6 cm of the gastroesophageal junction, as this region receives its arterial blood supply directly from the branches of the left gastric artery.

Implementing meticulous endarterectomy technique, providing adequate myocardial protection, and conducting postoperative antithrombotic management are as important as the reconstruction itself. Applying a meticulous endarterectomy technique is the most important aspect in reducing the risk of perioperative complications. Complete extraction of the atherosclerotic plaque is an essential prerequisite in this process. The worst outcome possible is usually associated with incomplete endarterectomy. Any residual intimal flaps should be removed carefully to prevent obstruction of the tributary vessels.

In conclusion, extensive endarterectomy and reconstruction of the LAD is a safe and feasible technique for complete revascularization of complex, diffuse coronary artery disease. Complete extraction of the atherosclerotic core, careful myocardial protection, and postoperative antithrombotic management are essential for a successful procedure.

## **References**

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