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Very Late Stent Thrombosis: Is There Any Limit, When to Stop Antiplatelet Therapy?

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Sir,

The advent of stent implantation has dramatically changed the management of coronary artery disease (CAD).[1] However, this management modality brought with it, a number of issues like stent thrombosis (STh) and in-stent restenosis (ISR), apart from procedural complications and financial burden. Although the issue of ISR was, to a great extent, resolved with the introduction of drug eluting stents (DES), very late stent thrombosis (VLST) still occurs from time to time, especially with first generation DES, due to delayed and ineffective endothelialization.[2]

A 72-year patient with hypertension, diabetes mellitus and prior percutaneous implentaion (PCI) of left anterior descending (LAD) artery with SES (CYPHER®) (3.0 x 28) more than eight and a half years ago, presented to our emergency department with acute anterior wall ST elevation myocardial infarction (STEMI). He was on single antiplatelet drug (Clopidogrel, 75 mg daily) which too was stopped by his physician 4 days prior to the current event, due to an episode of melena.

His emergency coronary angiography showed total occlusion of LAD with thrombus and mild plaquing in the rest of coronary arteries (Figure 1).

LAD thrombus was aspirated, followed by intravascular ultrasound (IVUS) which showed advanced positive remodeling, unapposed stent in proximal and mid portion and moderate ISR at the distal edge of the stent (Figure 2). The proximal to mid portion of stent was post-dilated and a DES (Xience-V) (Abbott®) was deployed to cover the ISR at the distal edge (Figure 3). Post-stent deployment, IVUS showed well apposed stent.

Although, VLST is a rare phenomenon in the modern era of advanced and sophisticated stent implantation techniques, equipment, dual antiplatelet drugs and reverse remodeling therapy, it does occur, more commonly in patients who discontinue their antiplatelet therapy.[3] It is relatively common with first generation DES, especially SES (CYPHER®) because of severe inflammatory response in the form of eosinophils, lymphocytes and giant cells, leading to significant positive remodeling and malapposition.[4] The same occurred in our case too.

Thus, it is very important for health professionals to keep in mind, VLST in patients having SES. If it is necessary to stop antiplatelet therapy due to some reason, physicians should vigilantly monitor such patients and should re-administer antiplatelet therapy as soon as possible.

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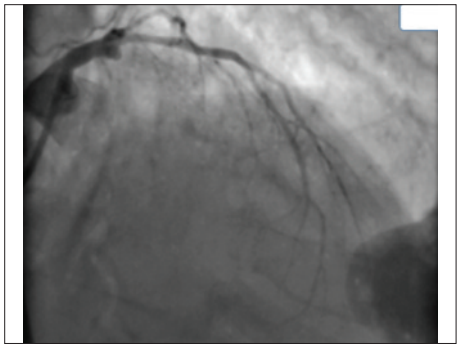

Figure 1: Still image of coronary angiogram showing total occlusion of proximal left anterior descending (LAD) artery and mild plaquing in left circumflex (LCX) artery.

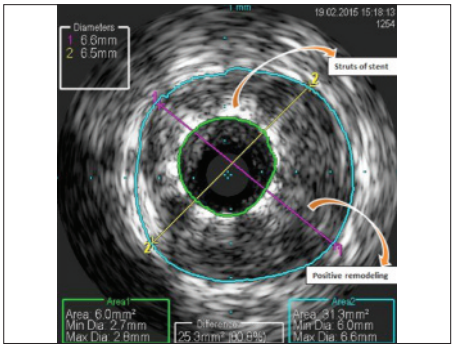

Figure 2: Still image of the intravascular ultrasound of left anterior descending (LAD) artery showing unapposed stent and positive remodeling.

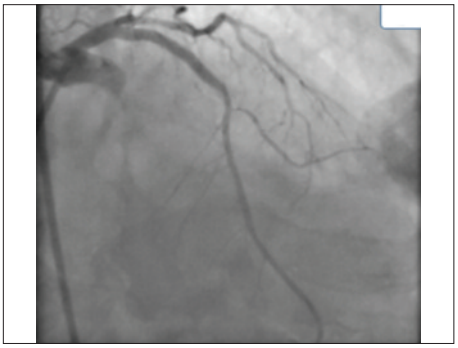

Figure 3: Still image of coronary angiogram after stent implantation showing patent left anterior descending (LAD) artery.