Very Late Stent Thrombosis Due to Late Stent Malapposition

To the Editor,

Late stent malapposition (LSM) is diagnosed using intravascular ultrasound (IVUS) and defined as a separation of the stent struts from the intima of the coronary artery wall which was not present just after implanting the stent. This phenomenon is more common after implanting a drugeluting stent [DES] (incidence rate = 12%-14%) than after implanting a metal stent (incidence rate = 4%-5%).

We present the case of a female patient aged 80 years with hypertension, dyslipidaemia, and diabetes who was seen in 2004 due to acute coronary syndrome with heart failure. The echocardiogram showed severe ventricular hypertrophy and anterior hypokinesia with an ejection fraction of 48%. The coronary angiography showed one vessel disease with a critical lesion in the segment proximal to the anterior descending artery. Next, a sirolimus-eluting
A new coronary angiography was performed, showing thrombosis at the stent implanted in the anterior descending artery (Figure 1C). During the procedure, after having performed a thrombectomy that provided abundant material, an IVUS examination was carried out which detected a LSM on most of the stent, with no evidence of poor expansion, images showing dissection, or other complications (Figure 2A).

Two metal stents that were larger in diameter than the previous one were implanted and subjected to high pressure post-dilation. Angiographic (Figure 1D) and ultrasound (Figure 2B) results were good. The patient showed good clinical progress and was discharged with double platelet antiaggregant treatment.

At present, clinical progress is unknown for patients with a stent who develop LSM. On the one hand, some long-term follow-up studies describe patients with a LSM who have received conservative treatment and whose coronary event incidence rate is no higher than that of patients without LSM.3,4

However, other studies describe that LSM is much more frequent among patients with very late onset of stent thrombosis compared to other
asymptomatic patients. They suggest a likely physiopathological relationship between LSM and stent thrombosis.\(^5,6\)

We present a case of LSM which received conservative treatment and led to very late-onset stent thrombosis (49 months after stent implantation). Given our current knowledge, defining the proper treatment strategy in these cases is very difficult. One option could be pharmacological with the recommendation of long-term double antiaggregant treatment; however, since thrombosis may occur very late, the treatment should be indefinite, and the problems it creates will be continuous. Another option could be treating the LSM percutaneously by dilating or implanting a stent within a larger stent, as was finally done in this case.

The case we present supports the possibility of a causal relationship between LSM and late-onset thrombosis.

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**REFERENCES**