

Letters to the Editor

Quo vadis, coronary lithoplasty**Quo vadis, lithoplastia coronaria****To the Editor,**

Urbano Carrillo et al.¹ have reported the excellent outcome of dilation with a coronary lithoplasty balloon for severe stent underexpansion due to the inadvertent presence of circumferential calcium deposit. We share the enthusiasm for this new technique—with a lone, single-arm feasibility study in 60 patients with 6-months' follow-up and published as a research letter²—both within the labelled indications for its use³ and in early off-label use. Among the latter is stent underexpansion, which has 5 reported cases to date.⁴ For this serious complication, associated with a risk of acute or late device failure, the available options have been prolonged dilation with nondistensible balloons at high atmospheres (plaque stress), rotational atherectomy of the stent,⁵ or coronary laser atherectomy.⁶ The indications for these procedures are also off-label, and they are not free of complications, are technically complex, and have limited availability, particularly laser atherectomy. Based on this background and because off-label use of coronary lithoplasty balloon dilation will likely become more widespread, we believe the following important observations should be considered: 1) the crossing profile is 0.044 ± 0.002 inches, and this size may make advancement through an underexpanded device difficult; 2) use of coronary lithoplasty within a stent (recently implanted or endothelialized) is a formal contraindication in the device label⁷; there are no available *in vivo* data on the effects of mechanical energy cycles on the device scaffold or polymer, or on the stability or kinetics of antiproliferative drug release; nor is there available evidence on the use of more than 1 coronary balloon lithoplasty for breaking plaque or its possible cumulative effects on the device or the vascular architecture; 3) there are no clinical, angiographic, or intracoronary imaging data in these patients, and no data on whether there are late effects on the vessel or the device; 4) restenosis is not a negligible scenario, given the uncertainty about the above concerns and the abundant presence of calcium; 4) imaging studies are mandatory in this context, at least until additional clinical data become available; both StentBoost and optical coherence tomography provide adequate information on proper device expansion, apposition, and structural

integrity; 5) in the absence of related evidence and given that the kinetics of drug release may be affected, we believe that posterior dilation with a drug-eluting balloon should be a measure to consider; and 6) in our opinion, when there are doubts or evidence of stent fracture, implantation of a new device within the stent is needed.

Despite the currently limited evidence, we believe that in the near future coronary lithoplasty will become the treatment of choice for severe, undilatable stent underexpansion because of its favorable results, availability, and technical simplicity.

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Quo vadis, coronary lithoplasty. Response**Quo vadis, lithoplastia coronaria. Respuesta****To the Editor,**

We greatly appreciate the interest and comments expressed by Arroyo-Úcar et al. regarding our publication.¹ Calcified coronary

lesions are a major challenge for interventional cardiologists, as they are associated with poor short- and long-term outcomes. The presence of calcium complicates the procedure by interfering with preparation of the lesion and restricting final expansion of the stent. An underexpanded stent in a patient with an acute coronary syndrome can have dramatic effects by favoring restenosis, and acute or late stent thrombosis. There are few available resources within this scenario, the most common and widespread being dilation with a noncompliant balloon at very high pressure or rotational stent atherectomy. Nonetheless, various complications have been associated with rotablation in these patients: stent deformation, dissection or

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