

## **Management of late/very late stent thrombosis: Utility of intravenous ultrasonography (IVUS) in clinical practise**

***Geç/çok geç stent trombozu yönetimi: İntravenöz ultrasonografi (IVUS)'nin klinik kullanımında yararlılığı***

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To the editor

We read with great interest the article by Aksu et al. [1] on the management of very late bare metal stent thrombosis. They performed intracoronary thrombus aspiration and inflated balloon in-stent for restenosis.

During percutaneous coronary interventions, interventionalists have often to deal with thrombus-laden lesions in coronary vessels. Plaque characteristics and distribution, severity and extent of calcification, arterial remodeling and the presence of dissection or thrombi can affect the decision to use a particular treatment before and after PCI. Clear identification of the characteristics of culprit vessels can help to improve clinical outcomes after interventions [2].

While the mechanism of stent thrombosis is yet to be completely understood, stent fracture and/or late acquired stent apposition could set the stage for late stent thrombosis (LST). Some types of late-acquired stent malapposition are caused by positive vessel remodeling due to biological reactions to the stent, which may allow motion and/or kinking of the stent, leading to stent fracture. Alternatively, stent fracture can lead to local mechanical irritation of the vessel, which may lead to stent malapposition. Exposure of a free metal strut after fracture into the vessel lumen could trigger platelet activation, stent thrombosis and subsequent myocardial infarction.

Intravascular ultrasound (IVUS) is a useful diagnostic tool for the assessment of lesion severity leading to revascularization, selection of the revascularization strategy and assessment of lesion composition leading to a change in interventional strategy and can contribute to reaching an optimal decision for intervention [3, 4]. In this case, if had considered, an IVUS study may have revealed late-acquired stent malapposition was highly prevalent in patients with LST.

In addition, in real world, most very late stent thrombosis cases are associated with discontinuation of anti-platelet agents due to dental procedure or non-cardiac surgery and it appears more closely related to discontinuation of aspirin. In stent thrombosis cases, despite ongoing anti-platelet agent, resistance must be considered and evaluated to avoid future complications.

## References

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