

## Regarding “A novel technique for duplex-guided office-based interventions for patients with acute arteriovenous fistula occlusion”



We read with interest the article by Aurshina et al.<sup>1</sup> Thrombosis is one of the most common complications of autologous arteriovenous fistula (AVF) for hemodialysis and often results in failure of the AVF. Arterial and venous track stenoses are usually the main reasons for this scenario, and percutaneous balloon angioplasty has been considered an endovascular treatment option.<sup>2</sup> In this study, all venous stenoses were treated percutaneously with traditional balloon angioplasty. Although guidelines have not yet recommended drug-eluting balloons for thrombosed fistulas, the superiority of drug-eluting balloons over plain balloons has recently been reported for failed AVFs and arteriovenous grafts.<sup>3,4</sup> In our opinion, if drug-eluting balloons were used in this study, outcomes would be better than the authors reported.

In addition, we have some doubts about the timing of the intervention and fibrinolytic drug use. In the study, salvage procedures were performed approximately 2 weeks after the diagnosis of thrombosed AVFs. To improve the outcomes of the salvage procedures, percutaneous treatment should be planned and performed as early as possible.<sup>5</sup> Delay may result in progressive growth of the thrombus, leading to more complicated interventions with less success, and also dialysis catheter insertion should be inevitable. The main goal of treatment for thrombosed fistulas should be early salvage interventions without catheter use.

Although fibrinolytic treatment was applied for more hypoechoic thrombus formation in the study, exclusion criteria for fibrinolytic use were not clearly mentioned. We congratulate Aurshina et al for their creative, valuable, and safe treatment methods for failed AVFs. We would also like to hear the authors' opinions on these matters.

Cemal Kocaaslan, MD  
Mehmet Senel Bademci, MD  
Mustafa Aldag, MD  
Ahmet Oztekin, MD  
Ebuzer Aydin, MD

Department of Cardiovascular Surgery  
Istanbul Medeniyet University Medicine Faculty  
Istanbul, Turkey

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## Reply



We would like to thank Dr Kocaaslan et al for their thoughtful and interesting comments in response to our article on the use of duplex ultrasound guidance to salvage acutely occluded arteriovenous fistula (AVF).<sup>1</sup> As Dr Kocaaslan pointed out, thrombosis of AVF is one of the most dreaded complications in end-stage renal disease patients as it threatens the long-term viability of the AVF.

The success of the drug-coated balloon (DCB) in the setting of arterial occlusive diseases has led to its introduction for stenosed fistulas in a few recent studies.<sup>2</sup> These studies have shown higher primary patency rate and longer freedom from reintervention when DCBs were used for both de novo and recurrent stenosis of AVF.<sup>3-5</sup> However, data still remain scarce, and its role in occluded AVFs is still unknown. In our study, we did not use DCBs as these were unavailable in the United States until recently and were thus not part of our practice at the time of the data collection.

Second, as it has been rightfully stated, early percutaneous management of thrombosed AVF would prevent further extension of thrombus; however, in our clinical experience, we noted that any manipulation of acute perianastomotic thrombi within 2 weeks of placement of the AVF can be challenging and runs the risk of dehiscence of the anastomosis. Therefore, for AVFs that thrombose within 2 weeks, we elect to delay the procedure until 2 weeks after placement of the AVF.

The exclusion criteria for thrombolytic use included patients with chronic thrombus and infected fistula/large pseudoaneurysm. We would like to thank the *Journal* for bringing the letter to our attention and giving us an opportunity to reply. On behalf of all the authors, we appreciate the careful review of our work addressed in this letter.

Afsha Aurshina, MBBS  
Anil Hingorani, MD

Vascular Institute of New York  
Brooklyn, NY