

Late stent thrombosis in the context of both extraluminal migration and fracture

Luis Fernandez González *, Juan Carolos Astorga Burgo, Aida Acín Labarta, and Josune Arriola Meabe

Interventional Cardiology, Cruces University Hospital, Plaza Cruces SN, Barakaldo, Biskay 48903, Spain

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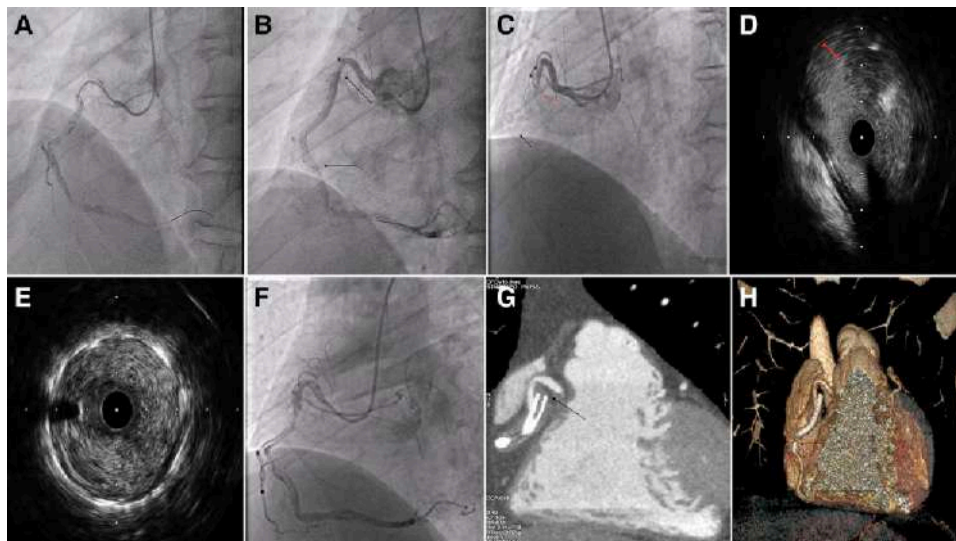


Figure 1 (A, B) Previous PCI to RCA needing the ‘mother and child’ catheter technique with two overlapped stent implantations. Arrows show the total length of stents. (C) Thrombotic occlusion of proximal RCA, red arrow shows the proximal part of the stent outside of RCA anatomy, and black arrow shows the stent fracture. (D) Intravascular ultrasound (IVUS) image of the proximal part of the stent showing malapposition (red line). (E) IVUS image of the wire position into a well-expanded and apposed stent. (F) RCA angiogram with TIMI 3 distal flow after balloon angioplasty. (G, H) CT images that show the proximal part of the stent outside of RCA anatomy surrounded by haematoma with no signs of active bleeding.

* Corresponding author. Tel: +34635970632, Email: luisfg82@hotmail.com

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Case description

A 49-year-old male who underwent previous percutaneous coronary intervention (PCI) to proximal and mid-right coronary artery (RCA), with two overlapped drug-eluting stents (DES) 4.5 × 20 and 4 × 32 mm (Synergy Megatron, Boston Scientific, Massachusetts) 13 months ago. That procedure was challenging, due to the *Shepherd stick*-type origin and tortuous anatomy, using the 'mother and child' technique (Figure 1A and B).

Few days after dual antiplatelet therapy (DAPT) discontinuation, the patient was admitted with inferior ST elevation acute coronary syndrome, showing thrombotic occlusion of proximal RCA. The proximal part of the stent seemed to be out of the RCA anatomy, and the distal part showed fracture and shortening (Figure 1B). We could cross into the lumen of the stent with a hydrophilic wire, performing angioplasty with small balloons achieving distal flow (Figure 1F). After that, with intravascular ultrasound (IVUS), it showed proximal malapposition and wire position into the true lumen (Figure 1D and E). Then, we continued with balloon angioplasty that improved distal flow and normalized ECG (Figure 1F).

Once we had achieved TIMI 3 distal flow, we decided to stop the procedure to confirm the precise cause of stent failure with a CT, which showed extraluminal migration of the proximal part of the stent surrounded by organized haematoma, a clear fracture at the distal part and substantial shortening of the stent (Figure 1G and H).

The case was discussed by the *Heart Team*, balancing the two possibilities of treatment: percutaneously with proximal graft stent implantation and instant DES implantation to cover the stent fracture, and surgically by aorto-coronary bypass (CABG). It was decided to perform CABG, with proximal ligation and saphenous vein graft to distal RCA, with good evolution.

Late coronary stent migration is not a common cause of stent failure.^{1,2} We hypothesize that implantation of high radial strength stents

for tortuous coronary could have provoked excessive straightening of the anatomy, causing both migration and stent fracture that developed proximal malapposition, with the consequence of stent thrombosis once DAPT was discontinued.

Supplementary material

Supplementary material is available at *European Heart Journal – Case Reports*

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Data availability

The data underlying this article are available in the article and in its online [supplementary material](#).

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