THE ROLE OF DRUG-COATED BALLOON ANGIOPLASTY IN SELECT PATIENTS

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INTRODUCTION

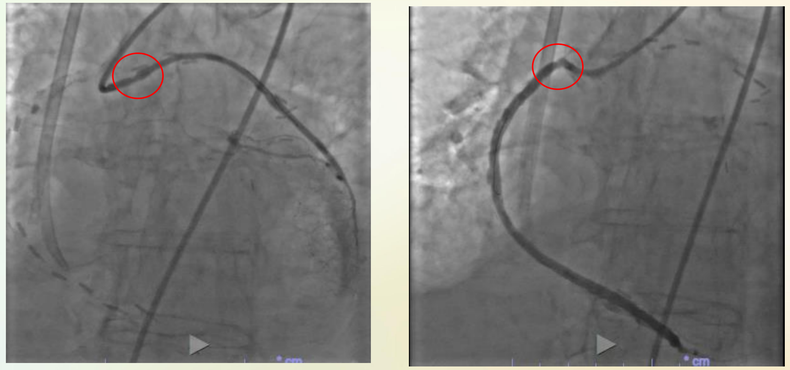
- Patients with high bleeding risks in need of PCI can have limited revascularization options.
- Prolonged courses of dual antiplatelet therapy (DAPT) can lead to increased risk of unwanted outcomes, such as gastrointestinal bleed.
- For those with high bleeding risks, limiting DAPT must be considered when reviewing revascularization options.
- We describe a case of in-stent stenosis of a CABG vein graft managed by drug-coated balloon angioplasty (DCB).

CASE SUMMARY

- A 75-year-old male with history of CAD s/p CABG with LIMA to LAD, vein grafts to 1st marginal artery and RPDA, s/p PCI to vein grafts, thrombocytopenia, and cirrhosis, presented with chest pain.
- Patient previously underwent PCI with DES to vein grafts in 2020 and in 2021 for stent stenosis.
- His symptoms resolved following PCI, but he presented with chest pain recurrence.
- Labs showed a platelet count of 71.
- An echocardiogram noted no new wall motion abnormalities.
- Left heart catheterization revealed chronically occluded native arteries with patent LIMA to LAD bypass, but restenosed vein grafts.
- Considering his thrombocytopenia, stenosis of multiple stents, and increased bleeding risk on DAPT, the decision was made to perform laser atherectomy and paclitaxel-coated balloon angioplasty.
- Post-intervention assessment showed minimal vein graft stenosis.
- The patient was discharged the following day and at outpatient follow up, he admitted to resolution of his chest pain.

INVESTIGATIONS

Vein graft to marginal artery (left) and vein graft to right posterior descending artery (right) showing severe stenosis at site of previous DES (red circles).



Following drug-coated balloon angioplasty, both vein grafts showed minimal in-stent stenosis (red circles).

DECISION MAKING

- Treatment of in-stent stenosis is typically managed with balloon angioplasty and re-stenting.
- However, due to severe thrombocytopenia and bleeding risk, long term DAPT was deemed too risky.
- DCB provided revascularization of the stenosed vessels and reduced the need for antiplatelet therapy.
- Currently, DCB is not approved for revascularization of CABG vein grafts in the United States.
- However, the DEBUT trial did show improved cardiovascular outcomes in patients who received DCB versus bare metal stent.
- In complex patients experiencing angina due to graft stenosis, DCB can be a revascularization alternative to minimize the risk of adverse bleeding events.

CONCLUSION

- Drug-coated balloon angioplasty of CABG vein grafts can be a reasonable option in patients with high bleeding risk on DAPT.

REFERENCES

- Rissanen, Tuomas T, et al. “Drug-Coated Balloon for Treatment of De-Novo Coronary Artery Lesions in Patients with High Bleeding Risk (Debut): A Single-Blind, Randomised, Non-Inferiority Trial.” *The Lancet*, vol. 394, no. 10194, 2019, pp. 230–239., https://doi.org/10.1016/s0140-6736(19)31126-2.

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