

中文題目：經導管同時治療複雜性冠狀動脈疾病及雙冠狀動脈瘻管

英文題目：**Transcatheter combination management of complex coronary artery disease and dual coronary fistulae**

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1.Introduction

Coronary artery fistula (CAF) is an abnormal communication between the coronary arteries and the cardiac chambers or another blood vessel. In the literature review, the concomitant transcatheter intervention of complex coronary artery disease (CAD) and dual CAF were rarely reported. We reported a 61-year-old man who had chronic total occlusion (CTO) of right coronary artery and significant stenosis of left anterior descending artery and dual coronary AV fistulae from left main and right coronary artery to pulmonary artery. Drug-eluting stents (DES) were deployed for coronary lesions and transcatheter coil embolization was performed for left main and right coronary artery fistulae.

2. Case description

This 61-year-old man with a history of hypertension and type 2 diabetes mellitus for several years presented with crescendo angina in recent 2 months at the out-patient department. The TI-201 myocardial perfusion scan showed significant perfusion defect at apical, septal and inferior wall. He underwent coronary angiography which showed 90% stenosis and total occlusion at the proximal portion of left anterior descending coronary artery (LAD) and right coronary artery (RCA), respectively; coronary fistulae from the left main trunk and RCA orifice draining into the pulmonary trunk were also found. Intervention was not performed this time for device preparation for coil embolization. In the meantime, the transthoracic echocardiography showed normal contractility of left ventricle; no significant abnormal flow was found at the pulmonary artery root. Coronary intervention was performed next week. After engagement of dual guide catheters, we advanced the wire through the CTO lesion of proximal RCA, and after balloon dilatation, deployed DES (Ultimaster 3.0 mm x 38 mm, Terumo corporation stent, Tokyo, Japan) successfully. Then we underwent coil embolization for RCA fistula by microcatheter support. Three coils (VortX 3.5 mm x 2.5 mm to 4.0 mm x 4.0 mm, Boston Scientific, MA, USA) were pushed to RCA fistula but the last one was partially protruded to the aorta. Therefore, we implanted another DES (Ultimaster 3.5 mm x 15 mm) to seal the orifice of RCA fistula. After the management of RCA lesions, we treated the left main coronary artery fistula by pushing 5 coils (VortX 3.5 mm x 2.5 mm to 4.0 mm x 4.0

mm) to the curved part at the mid fistula successfully. Finally, we also dilated the severe lesion of proximal LAD and deployed a DES (Ultimaster 2.5 mm x 24 mm) successfully. After the procedure, the coronary flow was good and the AV fistulae blood flow became diminished. The patient was symptom-free at the 6-month follow-up.

3.Conclusion

The combination management of complex CAD, especially with CTO, and dual CAF was rarely reported before. With well preparation of devices and deliberate technique, it is feasible to manage the complex CAD and dual coronary fistulae by transcatheter DES implantation and coil embolization.