**PULMONARY VEIN STENOSIS AFTER RADIOFREQUENCY ABLATION FOR ATRIAL FIBRILLATION**

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**Objective:** Pulmonary vein stenosis (PVS) is one of the complications after radiofrequency catheter ablation (RFCA) for atrial fibrillation (AF). Controversies are existing concerning the optimal approach for this issue. This case aims to evaluate the potential of combination of balloon and stents to restore the patency of PVS.

**Method:** N/A.

**Results:** A 68-year-old man presented with paroxysmal AF (PAF) refractory to conventional measures. Transabdominal ultrasound demonstrated left atrial diameter was 37mm, right atrial diameter 32mm, EF 66%. CTA indicated left superior PV of 16mm, left inferior PV of 10.7mm, right superior PV of 11.8mm, right inferior PV of 8.6mm. The patient received circumferential pulmonary vein isolation (CPVI). At the scheduled follow-up 12 months after CPVI, the patient complained of paroxysmal palpitations. Holter monitor indicated PAF. The pre-procedural CTA before the second CPVI indicated left superior PV of 1.4mm with a sever stenosis of 7.5×14mm, left inferior PV of 6.9mm, right superior PV of 14mm, right inferior PV of 9.7mm. A 4mmx15mm balloon was used to dilate left inferior PV with a residual stenosis of 70% because other types of balloons were inaccessible by then. At the follow-up 1 month after the second CPVI, CTA indicated a rapid progression of stenosis to occlusion. Left superior PV showed a stenosis of 85% and left inferior PV of total occlusion. A 6mmx40mm balloon was firstly used to dilate the left superior PV. A stenosis of 7.5mmx15mm was confirmed by CAG. After a bare-metal stent (8mmx24mm) was placed, there was no residual stenosis in left superior PV. Secondly, a 2.5mmX20mm balloon was used to dilate left inferior PV. A stenosis of 7.5mmx15mm was confirmed by CAG. After a drug-eluting stent (4mmx24mm) was placed, there was no residual stenosis in left superior PV. Oral medications of antiplatelet were prescribed. Holter showed sinus rhythm and CTA showed adequate patency during the follow-up 1, 3 ,6-month after discharge.

**Conclusion:** Severe pulmonary vein stenosis following RFCA for AF should be treated promptly because of its rapid progression. Combination of balloon and stents can much more significantly restore the patency of PVS than balloons alone.