RCA ostial CTO with severe calcification

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Case is 80s female. Diagnosis was effort angina pectoris, and CAG showed three vessel disease. After LAD and LCX lesion was treated, we performed PCI for RCA lesion. Target lesion was RCA ostial CTO with severe calcification which antegrade guiding catheter could not engage. Primary retrograde approach was performed through the septal branch, and SUOH03 wire and Corsair XS reach the near position of CTO exit. Gaia Next4 succeeded to pass through the CTO lesion by retrogradely and we confirmed the wire position by touching with antegrade guiding catheter, but Corsair XS could not pass the CTO lesion due to severe calcification. We made homemade snare with guide-extension catheter, small diameter balloon, conventional wire, and catch the Gaia Next4 within aorta. But we could not change the wire because the Gaia Next 4 was bended, then externalization could not be established. After releasing the Gaia Next4 once, we change the wire to RG3. After pull through system was established by re-catch the wire with homemade snare, small diameter balloon crossed the lesion and dilated. Because IVUS imaging showed severe calcified plaque, Intracoronary lithotripsy (IVL) was used for modification. We put the drug-eluting stent for the CTO lesion, and finished procedure. Final angiography showed no flow limit and acceptable stent expansion. Because retrograde approach was only choice of the strategy for this case, there were some limitations and tips of the procedure. Although we succeeded direct wire crossing by retrogradely, micro catheter could not pass the CTO lesion due to severe calcification. At the situation, homemade snare is good option for establishing pull through system. If the wire position by catching with homemade snare is too proximal site, there is some risk that we can not release the wire. In this case, we fortunately succeeded to release and change the wire to RG3, and establish the pull through system. Finally, homemade snare system helped us to deliver the micro catheter, balloon, IVL, and got acceptable modification for severe calcified lesion. We experienced RCA ostial CTO with severe calcification and succeeded to treat by using several techniques.