



scoreflex® TRIO

Balloon Dilatation Catheter



CASE 2

REPORT TITLE

The effectiveness of Scoreflex® TRIO
in calcified lesion where another Non-slip balloon
was stuck after inflated to high pressure

CASE SPOTLIGHT

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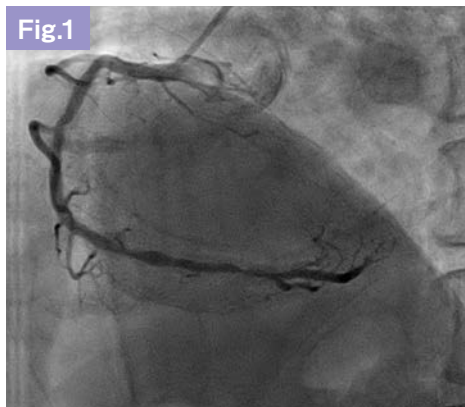
CASE DETAILS:

- Case: 50+ years old, male
- Diagnosis: Resting angina
- Main symptom: Resting chest pain
- Present disease: From the year of X-2, the patient was aware of resting chest pain once or twice a month. In Y-1 month of year X, he felt palpitations and chest pain in early morning and was transported to the nearby hospital. Although symptoms disappeared when arrived in hospital, coronary artery calcification was confirmed by cardiac CT, leading to the suspicion of angina pectoris as the cause of chest pain, thus he was introduced to our Circulation Internal Medicine department for treatment. Cardiac CT examination in our hospital revealed possible lesions in three branches, then in Y month of X year, Coronary Angiography was performed.
- Medical history: Hypertension, hyperuricemia
- CAD risk factors: Hypertension, hyperuricemia
- After admitted to hospital: Coronary angiography revealed 75% stenosis in LAD (Seg7), per RFR0.89 and FFR0.81 it was considered inappropriate as for re-vascularization and the treatment was set to be carried out later on. While in RCA, 90% stenosis was confirmed in the distal segment (Seg3) by right coronary angiography (Fig. 1), since this lesion was judged the culprit of this angina pectoris, the treatment was continued.

Fig.1



Fig.1



[Devices used]

GC: Launcher 7 Fr AL1.0 (Medtronic)

GW: SION blue (ASAHI INTECC), ROTAWIRE DRIVE FLOPPY (Boston Scientific), Amati (Japan Lifeline)

BC: Wolverine 2.25/15 mm (Boston Scientific), Non-slipping balloon 3.0/13 mm, Scoreflex® TRIO 3.0/15 mm (OrbusNeich),

NC TREK 3.0/15 mm (Abbott)

Stent: Xience Skypoint 2.25/33 mm (Abbott)

OFDI: FastView (TERUMO)

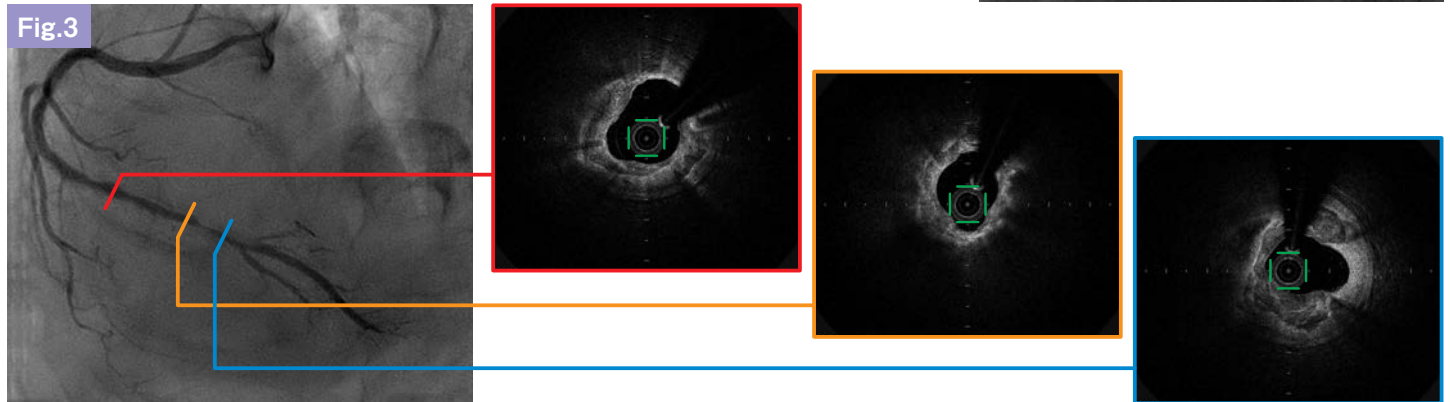
Atherectomy: ROTAPRO 1.5 mm burr (Boston Scientific)

Others: Prominent ReACT (Tokai Medical Products), EZ Keeper (MEDIKIT)

【Treatment】

Launcher 7Fr AL1.0 was engaged in RCA via right radial artery approach. Sion blue crossed the posterolateral branch. We tried to observe via FastView but failed to cross the lesion, then Rota ablation was set due to significant calcification confirmed by cardiac CT and fluoroscopic images. Sion blue was trapped by EZ keeper, and the Prominent ReACT was inserted, and exchanged to the ROTAWIRE DRIVE FLOPPY guide wire. Ablation was performed at max 7000rpm down by 1.5 mm burr of ROTAPRO which was set to 200,000rpm. (Fig.2)

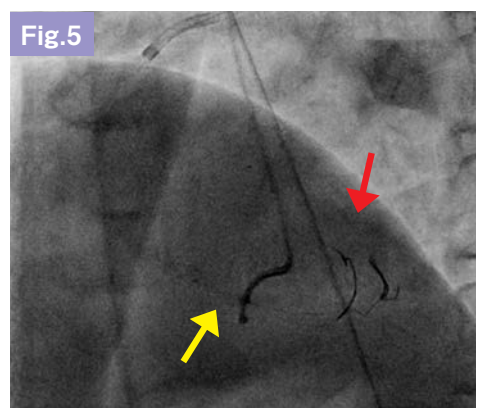
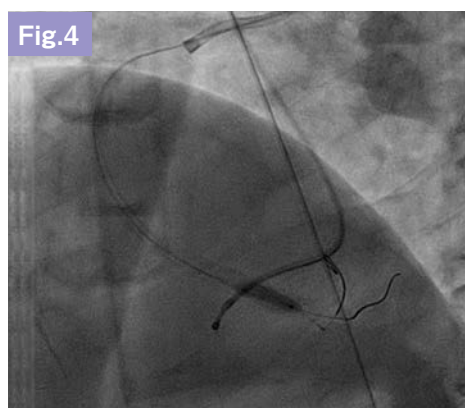
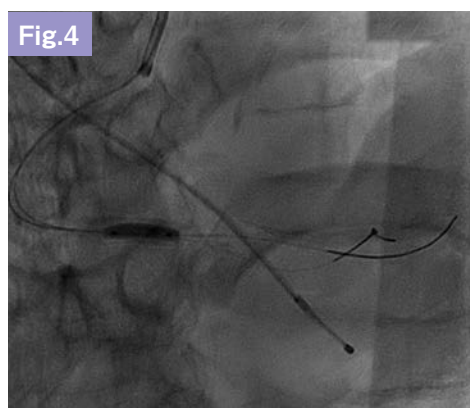
Since the FastView observed more than 270 degrees calcification, inflation by scoring balloon was deemed necessary. (Fig.3)



While Amati was used to protect PD, a Wolverine 2.25/15mm was inflated at distal side. For the larger diameter of proximal side of PD bifurcation, 3.0mm balloon is needed, thus a high pressure non-slip balloon 3.0/13mm was inflated to 24atm without indentation.

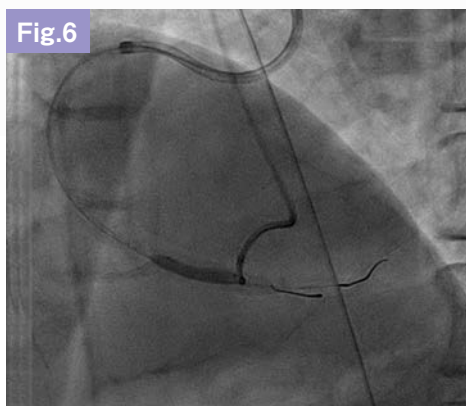
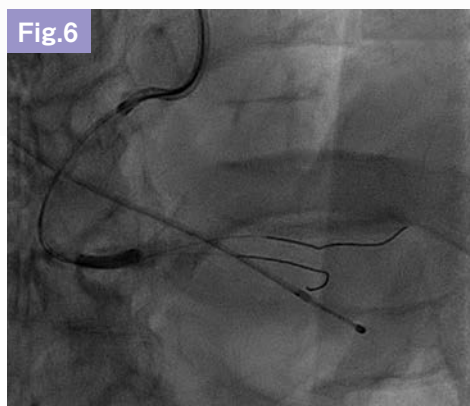
(Fig.4)

However when we tried to pull back the balloon a bit proximally for another inflation, it was trapped by the lesion and balloon was stuck. Although the device was somehow withdrawn in the absence of GW (Fig.5) we failed to re-enter the lesion.

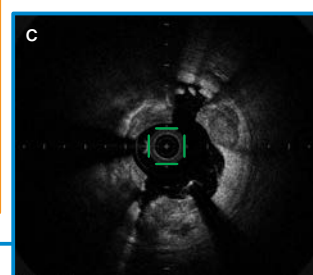
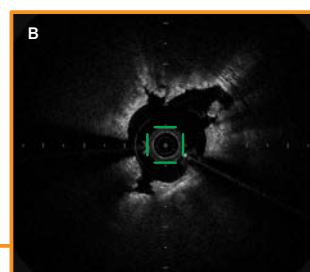
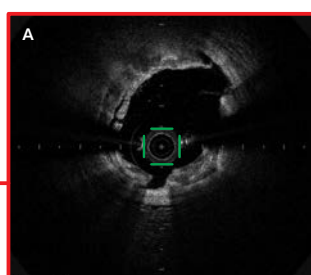
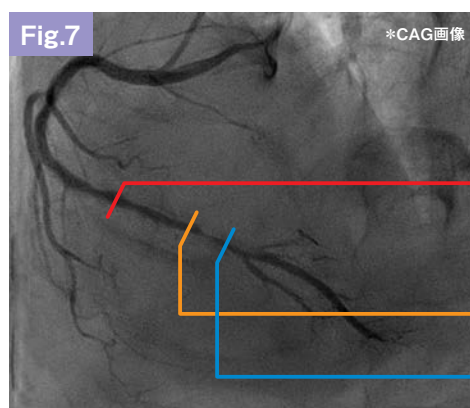


By pulling the balloon (yellow arrow), GC was drawn in and GW eventually penetrated and collapse (red arrow).

Thus we changed to Scoreflex TRIO 3.0/15mm and advanced smoothly into the lesion then inflated to 20atm. (Fig.6)



For proximal lesion dilation, the device was pulled a bit without resistance and succeeded in inflation. Since OFDI confirmed that desirable cracks were generated (Fig.7), Xience Skypoint 2.25/33 mm was implanted between Seg3 and Seg4PL and NC TREK 3.0/15 mm to inflate the center from the PD bifurcation. The target lesion patency was gained. (Fig.8)



A(Location inflated by Scoreflex® TRIO only) Nice cracks in calcification could be visible.

B(Location inflated by Scoreflex® TRIO and other non-slip balloon) Cracks at a 120 degree interval could be visible.

C(Location inflated by Scoreflex® TRIO and other non-slip balloon) Despite of relatively thick calcification, cracks could be generated.



【Discussion】

In recent years, high pressure non-slip balloon became a useful tool for highly calcified lesion. In this procedure, the other non-slip balloon, which is the most HP balloon available at the moment, was sufficiently inflated at first; but trapped by calcified lesion causing withdrawal difficulty and at last failed to re-enter. We altered to Scoreflex® TRIO 3.0/15 mm that easily delivered to lesion and demonstrated equivalent dilatation performance at 20atm compared to the previous device. Also no issue occurred when relocated it proximally after inflation once and followed by non-resistant withdrawal. Scoreflex® TRIO demonstrated the scoring effect by using 2pcs of 0.008" integral wires together with the 0.014" GW passing through the short monorail lumen from the tip and sitting outside the balloon; also the 0.014" GW could act as "buddy wire" during device delivery, contributing to the excellent deliverability in this report.

Highly calcified lesion, although could be treated effectively by high pressure non-slip balloon, remained a high risk for device stuck. Scoreflex® TRIO demonstrating high pressure, scoring effect and excellent deliverability (prevent device stuck) could be regarded as a reliable option for treatment of highly calcified lesion.