

Case Report

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“CX LCA Chronic Total Occlusion Recanalisation after previous CABG”



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Clinical Case

Patient T. 14.04.1948 year of birth, height 176, weight 94kg.

Risk factors: Arterial hypertension, smoking up to 20 cigarettes.day, hyperlipidemia.

Hystory - MI 2004 y,2011y, CABG - 4 in 2004, 2011, stenting venous bypass to CX. At admission, progressive angina is recorded, ST segment instability on ECG (depression up to 1.5mm in II, III, AVF)

ECHO - hypokinesia of the apex-lateral and basal segments with a total preserved EF - 55%. Creatinine 104,4mmol / l, blood glucose 6,0mmol / l, Troponin negative.

Coronaroangiography: RCA - chronic occlusion, bypass

occluded (coro 2011), LAD - critical stenosis in the middle third, is filled from internal thoracic artery. CX - chronic occlusion, diffusely changed. The jumping, previously stented bypass to the DB of the LCA and CX is critically narrowed in the distal third to 90%. Stented segment patent.

Strategy: Because of old bypass graft, a previously implanted stent in the proximal part of the bypass, it was decided to recanalize CTO of native CX.

Bifemoral access using 45 cm introducers and 7 F catheters with cannulation of the venous bypass and left coronary artery was used. With bilateral injection, a short-calcified site of CX occlusion is determined (Figure 1).

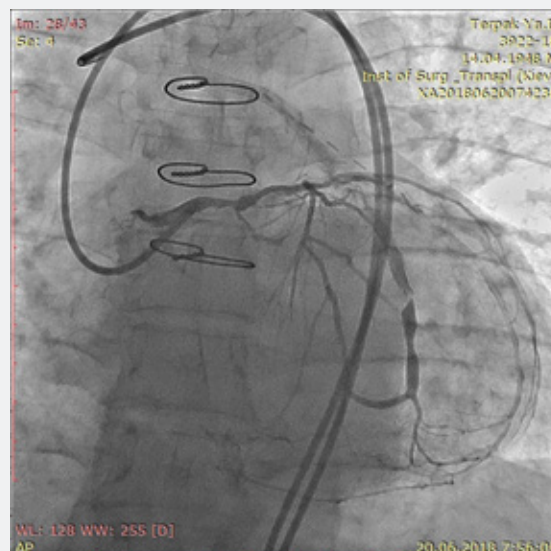


Figure 1: Bilateral LCA visualisation with guiding catheters.

We started antegrade recanalization with use of “Corsair” microcatheter 130 cm and “Filder XTR”, then “Gaia 2”. After recanalization occlusion part with wire it was not possible to cross the occlusion site with the microcatheter. The retrograde approach was started, through a venous bypass, using a 150 cm “Corsair” microcatheter and a “Gaia 2” guidewire. The wire was

passed into the proximal sections of the LCA and fixed in the antegrade guide catheter using the Trap technique with a balloon catheter 2.5 mm. Nevertheless, even with strong system fixation it was not possible to cross a retrograde microcatheter via a calcified occlusive segment. We change the microcatheter for low profile “Caravel” and “Fine cross” without any results (Figure 2).

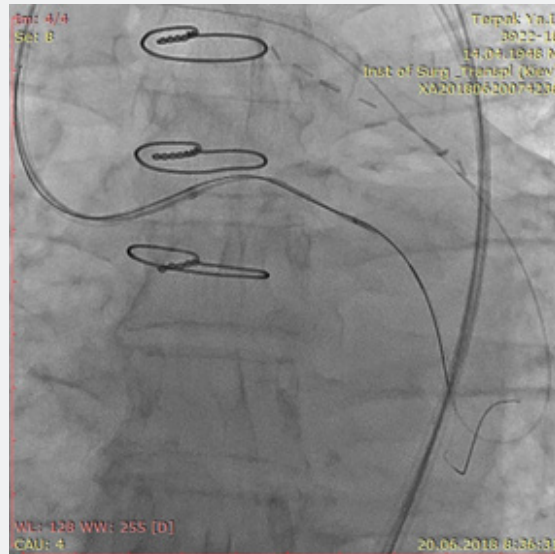


Figure 2: Antegrade and retrograde LCX recanalisation attempt with microcatheters.

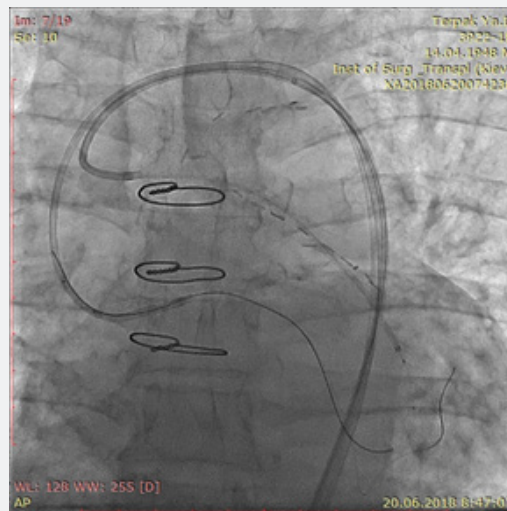


Figure 3: Successful CX retrograde recanalisation with Guidezilla & Corsair.

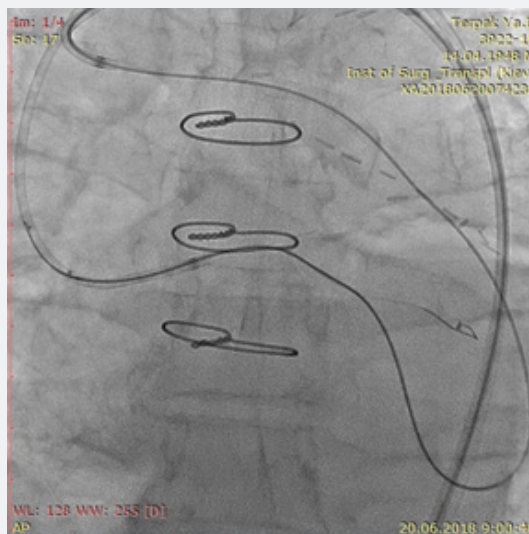


Figure 4: Trapping of retrograde wire and externalisation.

The next step after the removal of the retrograde instruments it was used "Guidezilla" 6F guide catheter extension, dilatation with the 1.5 "Trek" balloon catheter (Figure 3), and after that retrograde microcatheter could cross CTO site and was fixed into an antegrade guide and an externalization procedure was

performed using the RG 3 guidewire (Figure 4). Further, after balloon angioplasty with a balloon catheter of 2.5 mm, an attempt was made to implant the stent in the CX, but in view of the calcified site, the stents could be implanted only with the use of the "Guidezilla" 6F catheter extension in antegrade fashion.



Figure 5: Final result after stenting with 2 "Xience" stents.

After the stenting of the CX with 2x stent "Xience" flow was completely restored (Figure 5). At control coronarography the competitive blood flow in the distal artery through a stenotic venous bypass still existed. We refrained from bypass embolisation in view of its «jumping character» and the fear of occlusion of the blood flow to the DB of the LCA.

The patient's condition was stabilized, ECG changes were released, discharged for 3 days.

Used Material

- a. **Guidewires:** "BMW"- 2, "Filder XTR" - 2, "Gaia 2" - 2, "RG3" - 1
- b. **Guiding catheters:** "Launcher" 7F - 2
- c. **Microcatheters:** "Finecross" 150cm - 1, "Corsair" 130,150 - 2, "Caravel" 150 cm - 1
- d. **Balloons** - 1,5; 2,0;2,5,3,0 (NC)
- e. **Guide catheter extention:** "Guidezilla" 6F - 1

f. **Stents:** "Xience Expedition" - 2

g. **Contast media** - 400ml

h. **Air kerma** - 2.1 Gy

Conclusion

- a. In case of old diseased venous bypass in patients after CABG CTO recanalization of native arteries recommended.
- b. One should be prepared for the fact that the occlusal segment of the artery after CABG is often calcified, and it requires considerable effort and material for its recanalization.
- c. The venous bypass can be successfully used for retrograde recanalization, IVUS examination can assess the state of the bypass and the presence/absence of thrombotic masses, a potential source of distal embolization of the bypassed artery.
- d. The issue of postoperative embolization of venous bypass as a source of competitive blood flow remains at the doctor's discretion.



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