

# Chronic total occlusions in Artsakh: The last frontier

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In September 2022 a group of international health professionals visited Stepanakert Republic Hospital for a scientific exchange and educational activity, including hands-on workshops and proctorship for complex coronary interventions. This endeavour, a mixture of symposium, advanced training and humanitarian mission, was carried out to bring hope and normality to a desperate and far from normal turmoil. Stepanakert is the capital of the autonomous republic of Artsakh, according to the historical Armenian naming, also known as Nagorno Karabakh, after its soviet denomination.

Chronic total occlusions (CTO) are often considered the last frontier in percutaneous coronary interventions (PCI), as they are technically very demanding, require dedicated training over years, consume much more time and resources than standard PCIs and entail considerable risk of potentially life-threatening complications, which urge prompt reactions of the whole interventional team. During the workshop in September 2022 a group of CTO patients, carefully selected by Drs. Vahram Gabrielyan and Vardan Lalayan, were intervened in Stepanakert under the proctorship of the international experts brought by the mission. The interventions were highly didactic: both antegrade and retrograde approaches were performed, exhibiting



a whole variety of dedicated CTO techniques, like parallel wiring, anchor-balloon, dissection-re-entry, reverse controlled antegrade and retrograde subintimal tracking (CART) or tip-in, among many others (Fig. 1). The result could not have been better: 100% technical and procedural success,

with 0% clinical complications. The patients' gratitude and the team's motivation peaked above any preliminary expectation after these encouraging achievements, which is, of course, highly rewarding for a proctor and ineluctably tightens very special links among all the participants in the endeavour. Teaching is a true vocation that is not always easy to fulfil, especially nowadays.

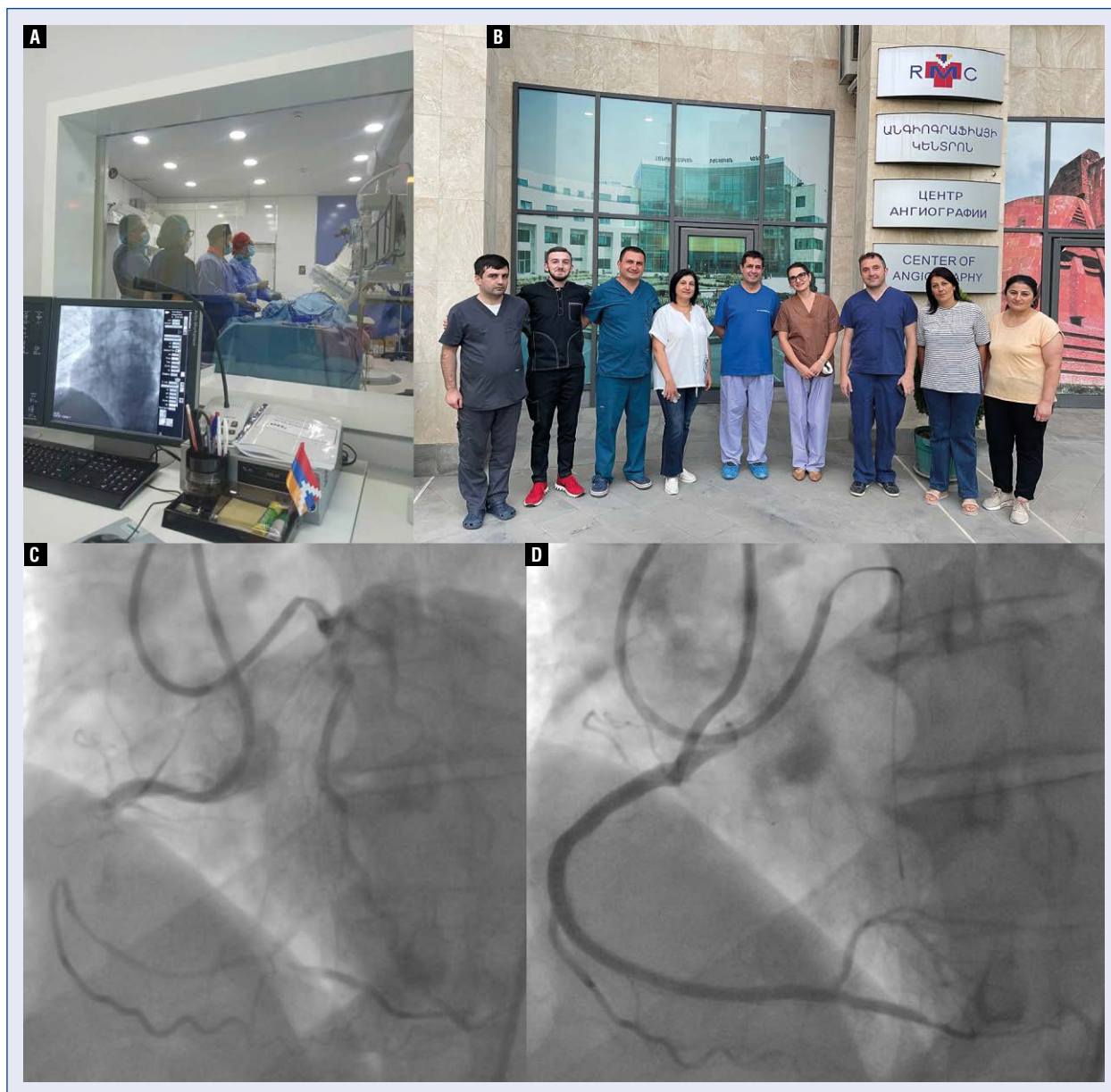
Many persons must be commended for this wonder of success, especially under the stressful conditions in which it was accomplished: most especially, the whole team at Stepanakert Hospital must be warmly congratulated by their professionalism and positive attitude. No matter how skilled or experienced a CTO operator is, the success of CTO PCI requires the commitment of the whole interventional team and supporting units. There was outstanding multilateral commitment during the interventions at the Stepanakert cathlab: professional nurses and technicians, eager to learn, notwithstanding linguistic barriers; supporting clinical cardiologists, providing all meaningful

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**Figure 1. A.** Catheterization laboratory of the Stepanakert Republic Hospital; **B.** Visiting doctors (Gutiérrez-Chico and Grigorian) with the local Interventional Cardiology Team; **C.** Example of a chronic total occlusion of the right coronary artery that was successfully treated **(D)** by means of a combined retrograde and antegrade approach in Stepanakert.

clinical and functional data and watching the procedures with genuine curiosity, while keeping the bond of trust with the patient, et cetera. Building such a professional environment is an extraordinary achievement and we are not in the position to state to whom the merit belongs, but the leadership of Drs. Lalayan and Gabrielyan for sure have something to do with it. Secondly, the board of the Hospital, especially the Director, Dr. Mher Musaelyan, for facilitating the mission in all possible means and very importantly, the Minister

of Healthcare, Dr. Mikael Hayriyan and his team, who supported the participants and found room for proper institutional courtesy in the middle of such deep distress. Finally, the organizers of the International Cardiovascular Symposium in Yerevan, the scientific activity coupled with the mission, who have certainly facilitated the engagement of top international experts into this unique workshop.

Artsakh can be also considered the last frontier of our civilisation, a frontier seriously jeopardised right now, in the middle of our unconscious indif-

ference. A vast majority of Artsakh population is ethnically and culturally Armenian, even though they were ascribed to the republic of Azerbaijan during the soviet times of the USSR. After the collapse of the Soviet Union in 1992, Artsakh tried to use the existing legal mechanisms to join the newly created republic of Armenia, thus redefining a political status more conforming with the historical and *de facto* reality of the region, but Azerbaijan tried to avoid it. The result was a brutal war in which Armenians in Artsakh succeeded to obtain their independence from Azerbaijan, although with scarce international endorsement. In fact, they have been living as part of Armenia for almost 40 years. This *statu quo* was unilaterally broken by Azerbaijan in 2020 overtaking vast territories of Artsakh, which *de jure* still belonged to Azerbaijan, in a second Nagorno Karabakh war, cutting the communication with Armenia and isolating Artsakh from the rest of the world. So far everything sounds like another territorial dispute in the remnants of the old Soviet Union, but the problem in Artsakh is far more concerning. Armenians are not moved by secessionism or nationalism: they fight for their survival. Azeris are a Turkish nation and for some reason they are pervaded by an insane hate to their Armenian Christian neighbours. The few intellectuals who have raised their voice against this hatred have unfortunately not succeeded to imprint their message in the Azeri population, more prone to buy the fanatic nationalistic messages of their autocratic regime than to the self-criticism promoted by a few brave voices advocating for moderation. The Azeri soldiers share disgusting videos on social media of their inhuman atrocities and war crimes against Armenian soldiers and civilians, probably expecting the applause of their comrades or society, who seem to be fully unaware of Geneva Conventions. While the Western World prefers to ignore what is happening to Armenia, the population of Artsakh faces a bitter future, fearing another ethnic cleansing, the exsanguination in an uneven and cruel war, the slow asphyxiation in an

isolated enclave sieged by unpredictable enemies, or the deportation. Sufficient material to keep the International Court of Justice in the Hague busy for quite some time, but we do not care: Azerbaijan keeps on singing in the Eurovision Song Contest, participating in all sporting competitions and we keep on buying their gas and oil, especially now, when we need it so much. Azerbaijan is affluent in resources, it has a modern and powerful Army and it is blatantly supported by Turkey, another major player in this tragedy, that has moved towards radicalisation, Islamism and nationalism in the last years. Armenia will not survive without our support, but why should we show solidarity with them? For multiple reasons. Because it is a war of civilisation vs. barbarism, of democracy vs. dictatorship, of rationalism vs. fanaticism, of patriotism vs. nationalism, in summary, of the values of our free world vs. the values that enslave men. We are not so naïve as to believe in Manichean views, especially in war, where the devil always plays both sides, but a crime can never be justified by another preceding crime. We cannot simply witness the second season of the series *genocide* without reacting. We can still exert substantial diplomatic pressure to stop this carnage and force a civilised solution. If we take some distance from the immediacy of our current problems (war, energy crisis, etc.), we might admit that we have a lot to learn from the Armenian attitude in a broader perspective. In their long history, Armenians have dialogued with Russia and the USA, with Israel and Iran, with Europe and with Asia, in summary with everybody to survive. One day, hopefully soon, we will have to welcome again some countries to the international fraternity, temporarily broken by ill leaderships. We are pretty confident that Armenians will know for sure how to deal with that. Let us stand for Armenia and Artsakh, for our common roots as cradle of the Christian civilisation, for a minimal sense of ethical justice in the present and for the hope in a future world, where we can live in peace with our neighbours and above all with our conscience.

**Conflict of interest:** None declared