Drug-Coated Balloon, a novel tool in SCAD type 4 patient , treated by CTO like approache.

Case presentation :

24 years old female presented to our clinic with squezzing chest pain lastiong for 2 hours. Here ECG revelesd ST segment elevastion on the pericordial electrodes . The patient was free from classic cardiovascular risk factors.No family nor medication history found . We planned an urgent diagnostic angiography . The angiography reveled normal apperance of both RCA and LCx but total occlusion of the mid LAD part with no stain of the distal part of the vessel (video 1). The patient bedside ECHO showed Wall motion abnormality for the middle part of the septum , apical and middle part of the anterior wall , apical part of the lateral segments with nearly 25 ejection fraction without remarkable valve abonrmality . The patient's blood presure was 80/40 very agitated and uncomfortable . The patient evalutaed as high risk and we decided to reobtain the flow of the LAD . 6F right femoral approch, engagment by 3,5 JL catheter . After 2 attempts the work horse wire failed to cross the lesion , so we decided to approch like a CTO lesion . 1,4 TAHA medical microcatheter and Filder XT-A wire and by gentle attempts we were able to cross the distal LAD part . advancement of the microcather and by tip injection we confirmed the distal LAD segment (video 2) . Exchange with the work horse wire and 1,25 *10 balloon predilatation . Still TIMI 0 flow, so repredilatation all the LAD starting deep distaly to the proximal segment beside intracoronary administration of adenosine , nitrogliserin and diltizem were also useless . TIMI 1 flow achieved but the patient still unstabile (video 3). Unfortinatlly no intracoronary imaging modality in our cath lab to defind what was the main mechanism for this dissection and what should be the most suitable approch for such a young female . Prolong dilatation with DCB 2,5*20 for the tightest lesion . After acheviment of TIMI 2 flow we decided to leave it to the natural healing process (video 4) . Dual antiplatelet therapy with asetilcelic asid and clopidogrel , beta blokers and colchicum were started . After 2 days the patient was free of complaints but still have low ejection fraction near 30 % . 1st month control ECHO revealed obvious recovery of the ejection fraction near 45% . totaly free of symptoms . for educational purposes and after the approval of the patient we decided to perform control angiography . The contol angiography reveled TIMI 3 flow of the LAD and obvious apperance of the disection part of tha mid LAD segment and the hematoma (video 5-6). totally normal ECHO findings . Since the patient is free of complaients we decided to continue on the same medication for 1 year and We banned her pregnancy .

Conclusion :

SCAD is an important cause of ACS, particularly in young women without traditional cardiovascular risk factors.The pathophysiology and treatment are different to ACS caused by plaque rupture or erosion. Most coronary dissections will heal spontaneously, and conservative treatment is recommended for uncomplicated cases. Patients with left main coronary involvement, complete vessel occlusion, ongoing chest pain or haemodynamic instability will require coronary revascularisation. PCI results are suboptimal in this challenging group of patients. in such case of unstable SCAD patient, the chronic total occlusion (CTO) skills and manegment mentality saves the life of the patient and also the 1st month image till us that the DCB can be an alternative tool for the healing process in this entity of patients unless the mechanisim is unclear yet . CTO and complex PCI approaches can be more valuable than standard PCI approach in such high risk patients .

Video 1 :


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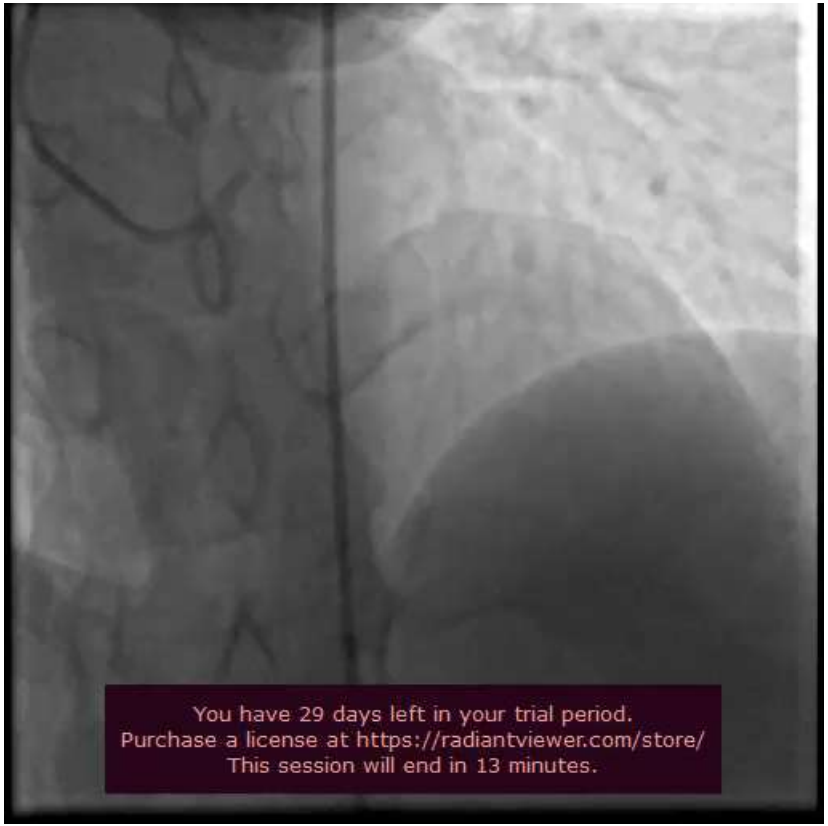
Video 5 -6 :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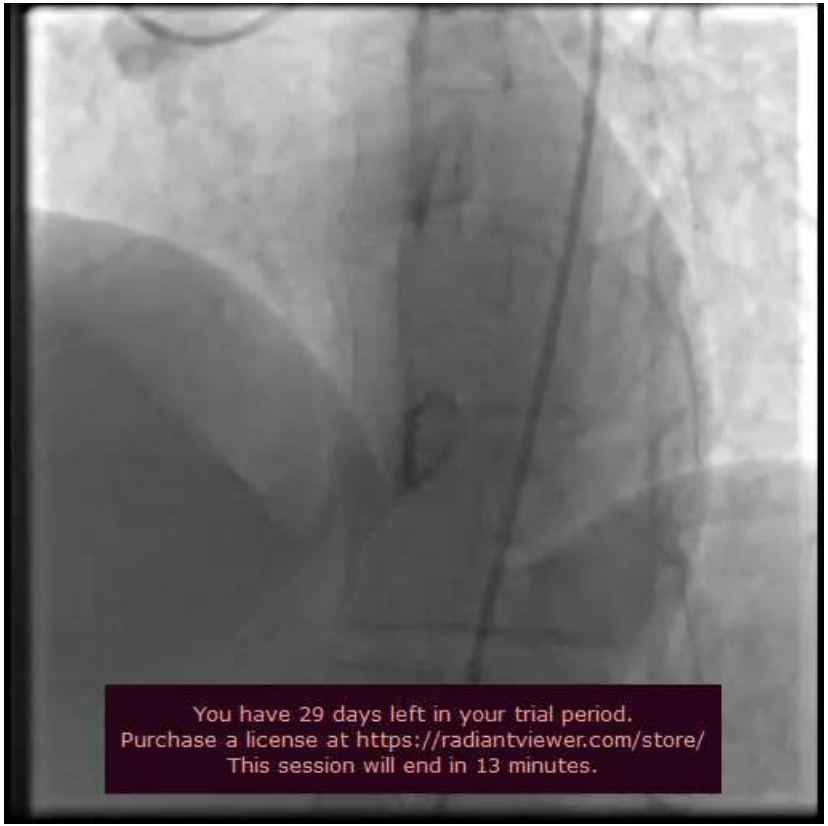
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