

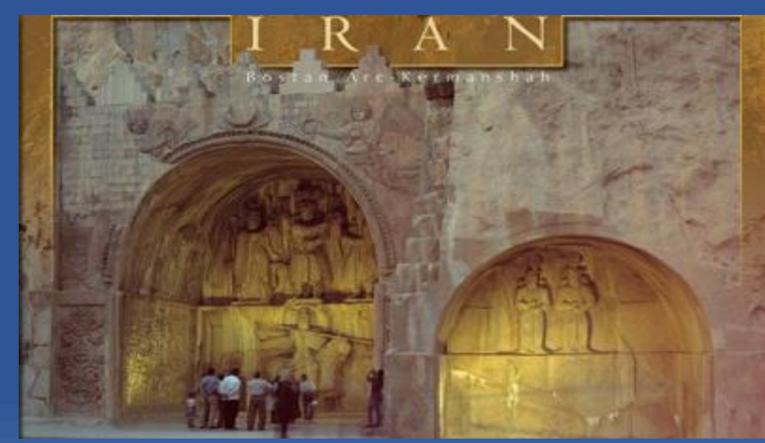
Angioplasty of left iliac vein by a technique parallel balloon

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Background:

Deep venous thrombosis is potentially devastating condition and can cause permanent disability with significant morbidity and even mortality. routine endovascular technique from popliteal and jugular access may not be successful and in the rare cases we should use another technique which is used at chronic coronary or arterial occlusion.

Conclusion:

Arterial occlusion has different etiology from deep venous obstruction. Applied techniques which worked well to pass arterial occlusion may lead to frustrate attempts in venous obstruction. In retrograde arterial total occlusion angioplasty, we used reversed CART technique. During retrograde wiring, distal cap is crossed with appropriate wire but blocked at sub intimal space. Then a penetrating wire to reach proximal cap via anterograde guiding catheter enters to sub intimal space in anterograde direction, therefore creates an anterograde and retrograde overlap zone. Balloon angioplasty over the anterograde wire is performed on overlap zone to ablate the tissue that separates anterograde and retrograde wire. Following this maneuver, a wire is used to traverse from tissue planes to enter the same plane where there is an anterograde wire and finally crosses the true lumen. Because there is no sub intimal space in the structure of vein, we use the parallel balloon angioplasty technique. In parallel balloon angioplasty technique, we use two balloons antrogradely and retrogradely to break fibrous bands and thereby opening different canals, after which guide wire can be easily picked up. It seems that this technique is similar to reverse Carty technique and can be applied in both arterial and venous obstructions.

Case Summary:

A 30 year old man was admitted to hospital with post thrombotic syndrome. Ultrasonography showed total occlusion of left common femoral and iliac vein. First attempt for endovascular treatment about six weeks before we found the new technique had been unsuccessful and led to perforation of left external iliac vein. Six weeks later our plan changed into take the access from jugular vein. However, several attempts from Jugular vein for Angioplasty failed to find the right routes of recanalization. After several unsuccessful attempts from jugular and popliteal access, we passed two wires from jugular and popliteal access and then we inflated two balloons of 4-40 Ultraverse into fibrous tissue with 10 ATM. Then the wire from left femoral vein easily passed into right route, to left iliac vein and I.V.C (parallel balloon angioplasty). Pre-dilation was performed by two balloons of Atlas 14-40 and 16-40 with 8 A.T.M with good result. After pre-dilation, two stents of 18-160 and 14-120 Venovo were deployed at IVC to left femoral vein and Post-dilation was performed.

