Hurdle, Unexpected Surprise Awaits Micra

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Introduction: 60 years old lady with End Stage Renal failure requiring regular dialysis. Arteriovenous fistula (AVF) was created over the right arm. However her AVF failed, an attempt was made to create over left arm, unfortunately, it is not suitable yet for creation of new AVF. She proceeded with permanent catheter insertion over the femoral vein. Catheter insertion over the right femoral vein failed, therefore proceeded with permanent catheter insertion over the left femoral vein which was successful. Recently admitted for symptomatic bradycardia with a pause of 6.5 seconds. The decision to implant pacemaker was made and the leadless pacer was decided to be the best option to preserve her future vascular access. Micra from Medtronic was chosen.

Methods: N/A

Result: Only access available was right femoral vein as left femoral vein has a permanent catheter for haemodialysis. The venous puncture was done however unable to pass the guide wire towards IVC. A cine image was taken and noted wire is in the right course of direction however unable to advance more than 70% of its length and the vessel was heavily calcified. 6 French femoral sheath was inserted and contrast injection is done under fluoroscopy. Noted right common iliac vein occluded!! What is the next step?? She needs access to implant Micra!! A peripheral intervention wire (V0.018) was used to open the occlusion guided by multi-purpose catheter (MPA) however failed. We are Electrophysiologist with little knowledge of peripheral intervention and poorly equipped for peripheral intervention. We believe a stiffer wire is needed to break the complete total occlusion of the distal common iliac vein. Therefore the same wire (V 0.018) was used but this time distal end (stiffer) of the wire together with MPA able to cross the lesion. Once we cross the lesion. MPA catheter was glided upwards and the V 0.018 wire was removed. A contrast shot was taken to ensure we are within the lumen and lucky enough to be in the lumen and contrast actually flow towards IVC. This is followed by reinsertion of V 0.018 wire in a proper method. The V 0.018 wire was advanced together with MPA towards inferior vena cava. Then, the wire was replaced with Amplatz super stiff wire and MPA was removed. The lesion was predilated using peripheral balloon 12 x 40 mm and inflated at 10 atm several times and finally able to establish a good diameter of the right common iliac vein.

Conclusion: This has paved the path for Micra delivery sheath to be run over the Amplatz wire and managed to implant Micra leadless pacemaker with good parameters and created new access for future dialysis catheter to be inserted over the right femoral vein. Lessons learned: 1) Choosing the rightful patient for Micra implantation. 2) Basic knowledge of peripheral intervention 3) Adequate history taking prior to the procedure will help in better preparation of the patient pre-implantation. 4) Understanding the Micra retrieval technique much useful.