



UN-SNARED-ABLE RVOT STENT DISLODGMET TO THE DESCENDING AORTA IN TETRALOGY OF FALLOUT PATIENT WITH TIGHT PULMONARY STENOSIS AND SMALL PA SIZE, WHAT OPTION DO WE HAVE?

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Introduction:

Tetralogy of Fallot is one of the most common cyanotic congenital heart diseases with wide variations. In a very tight pulmonary stenosis (PS) TOF will cause a small pulmonary artery (PA) size so it needs more preparation before total repair of the TOF, yet the patient also came with more desaturated condition which need a bridging therapy such as BT-shunt or right ventricular outflow tract (RVOT) stenting. Nowadays the RVOT stenting is preferable in certain condition since it won't cause additional tissue adhesion. RVOT stent insertion in TOF can be challenging since it's located near the large subaortic VSD and an overriding aorta make it easy to dislodge to the Aorta, meanwhile, the big size of the stent and the high-pressure flow in the aorta make it difficult to snare the dislodged stent.

Case Illustration

History, physical examination and imaging:

A 21-years old girl, body weight 35 kg sent to the catheterization laboratory of National Centre of Cardiac Harapan Kita with TOF, tight PS and very small PA size to perform an elective RVOT stenting. First, we perform the RVOT-graphy, dilate the pulmonary valves and the RVOT, then we put omnilink 10x29 mm vascular stent in the RVOT. The Aorta saturation was increase from 77% up to 94%. Nevertheless, we notice that the stent was already flown into descending aorta. The stent was slowly went down to distal aorta. The first plan was to snare the stent into thoracic aorta then do the cito surgery, but its very hard to be snared. Suddenly the stent reached to renal branch so we dilate it and try to snared it again since the stent can be protected by balloon. Unfortunately, the stent have gotten stuck in descending aorta, so we decided to crashed it into the aortic wall and it seems in a good position. Furthermore, suddenly the patient's peripheral oxygen saturation decreased to 23%, then we proceed to perform another RVOT stenting with the same size of stent but place it more proximally. The RV



angiography showed a good result and the peripheral oxygen saturation was increase up to 100%. What happened next to the dislodged stent was apparently moved more distally, so we removed the pigtail catheter and performed another stent dilatation using nucleus balloon so the stent had better position. Last examination showed there were no disruption to the distal aorta flow and patient's oxygen saturation maintained at 100%.

Indication for intervention:

Nowadays RVOT stenting are feasible to perform to increase flow to the small pulmonary artery due to stenosis of the infundibulum. RVOT are preferable than BT-shunt procedure since it can give balance flow to the right and left pulmonary artery, and eliminate risk of tissue adhesion prior to final TOF repair surgery. RVOT stenting is a technically challenging procedure with significant risk for complications and procedure failures. The bail out of stent dislodgement was snaring technique. Unfortunately, in this case it failed. Since the patients was 21 years old, it decided to reposition and inflate the stent at the descending aorta. Nevertheless, we perform the RVOT stent again with the same size of stent but place it more proximal.

Learning points of the procedure:

We have learned the value of appropriate position of RVOT stent (proximal of the RVOT) to prevents stent dislodgement. In some cases, especially in more adult patients, where the stent failed to snare, we could reposition the stent and inflate it properly, so it won't cause flow disturbance. Last but not least, perform another RVOT stenting procedure to reach the goal of increasing the oxygen saturation and enlarge the PA size.