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Case Report

A New Suture Technique for Tricuspid Valve Replacement in Ebstein's Anomaly

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Abstract

Tricuspid valve replacement is the most complicated one. Paravalvular leakage (PVL) and heart blocks are seen quite often. This new suture technique created for tricuspid valve replacement. We claimed that this technique provides less amount of PVL outcome theoretically. It can be described that ''one by one, interlocked suture technique'', and each suture can be supported by teflon pledget. We would like to share the details of this technique.

Keywords: Ebstein's anomaly; New suture technique; Tricuspid valve replacement

Objective

We have created a new suture technique for tricuspid valve replacement which provides less amount of PVL outcome. The suture technique that we named 'Nebigil technique' can be described as a 'one by one, interlocked suture technique' and each suture can be supported by teflon pledget. Tricuspid valve replacement is known as one of the most complicated replacement in cardiac valves replacements. In order to prevent possible leakage incidence, this technique can be used safely.

Methods

A 17 years old male patient referred to the hospital (S.S.K. Ankara Educational and Research Hospital) with symptoms such as dyspne, cyanosis, cardiomegaly and congestive heart failure. After physical and laboratory examinations followed by echocardiography, angiography revealed Ebstein's anomaly combined with Patent Foramen Ovale (PFO). The patient had operation in 1997; cardiopulmonary bypass with 28°C hypothermia, bicaval cannulation and cold cardioplegia was applied. PFO was closed primarily, tricuspid valve was excised totally, and right atrium was enlarged with a PTEF patch. A prosthetic valve was implanted with the new suture technique which is shown in figures 1, 2,3. As it can be seen in figures 4 and 5, the broken suture would take more space than our new technique (x1>x2). Therefore, paravalvular leakage morbidity would be higher in other technique than that of our new technique.

Figure 1: Each of sutures is interlocked one another.

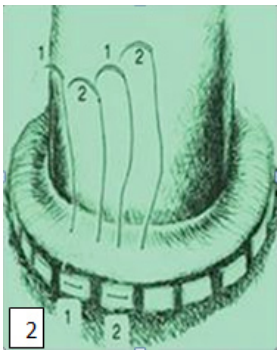

Figure 2: Each of sutures is interlocked one another.

Figure 3: Each of loops is knotted by itself.

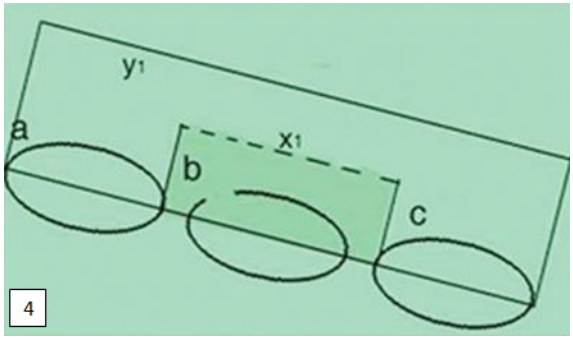

Figure 4: Each of sutures is interlocked one another. (a=b=c, Leakage area: x1>x2, Three sutures distance: y2>y1, Broken suture: b).

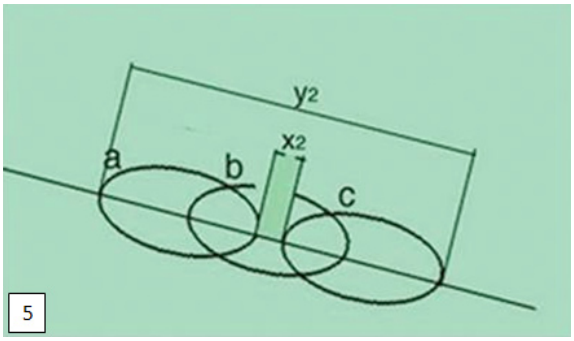

Figure 5: Each of loops is knoffed by itself. (a=b=c, Leakage area: x1>x2, Three sutures distance: y2>y1, Broken suture: b).

Results

Seven days after the operation the patient was discharged with no complications. Digoxin, diuretic, warfarin and aspirin were prescribed. In 6- months- interval, the patient was followed up for 2 years and then he was controlled every year by echocardiography. After the operation, apparent recovery was seen immediately. His effort capacity improved from NYHA III to NYHA I. He has been doing well up to the recent checku p.