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PULMONARY STENOSIS FOLLOWING TETRALOGY OF FALLOT REPAIR TREATED WITH TRIPLE-BALLOON PERCUTANEOUS PULMONARY VALVULOPLASTY TECHNIQUE

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ABSTRACT

TOF is a ventricular stenosis (VSD), overriding an aorta and right-wing ventricular hypertrophy (RV). 3.36 percent of all congenital heart disorders, are the most prevalent congenital cardiac cyanotic, is the most common congenital cardiac cyanotic disorder. After the cardio-pulmonary bypass was introduced in 1953 it was possible to fix the surgical TOF, and since 70s operating results have improved significantly. At now, over 20–30 years of TOF repairs, the survival probability is 85–90% which is regarded good. Residual pulmonary stenosis, PR and arrytmia are all factors that affect survival after surgical repair when reparation has been completed (that is to say before 1970). Large structures like aorta, lower vein cava, and oesophagus were extended by the triple balloon. This three-ballon approach has been utilized by Gaylord et al to examine balloon geometrically in diameter. Based on their findings, two balls with a diameter of 12 mm and one ball with a diameter of 15mm might concurrently be inflated with the aim of reaching a diameter of around 26mm. Microindel et al. stated that the long-term success rate was limited, and reinterference is often essential after balloon valvulation procedure in RV / pulmonary artery patients with pinnacle-to- peak gradients of at least 36 mmHg. The RV-pulmonary gradient was 13 mmHg in the current patient after therapy and showed a beneficial attempt to lower pressure. The patient had a positive effect of RV-to-pulmonary arthritis. Following treatment, no increased chronic phase pressure was noticed and its subjective symptoms were subsequently relieved. Hence, we consider that valvular plastics are a potential strategy to improve the chronic forecast of pulmonary stenosis.

Keywords:- Body Mass Index (BMI), Pulmonary Function Test (PFT), Forced Vital Capacity (FVC), Spirometery.

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INTRODUCTION

TOF is a ventricular stenosis (VSD), overriding an aorta and right-wing ventricular hypertrophy (RV). 3.36 percent of all congenital heart disorders, are the most prevalent congenital cardiac cyanotic, is the most common congenital cardiac cyanotic disorder [1, 2]. After the cardio-pulmonary bypass was introduced in 1953 it was possible to fix the surgical TOF, and since 70s operating results have improved significantly [3, 4]. At now, over 20–30 years of TOF repairs, the survival probability is 85–90% which is regarded good. Residual pulmonary stenosis, PR and arrytmia are all factors that affect survival after surgical repair when reparation has been completed (that is to say before 1970) [5, 6]. The common explanation for death in late-stage surgical restoration lies in Sudden death which was later demonstrated as the outcome of heart failure with

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persistent pulmonary stenosis [7, 8]. The requirement for a significant number of repeated TOF. procedures has been neglected in the past few years, often with favourable results. Percutaneous PVP was performed during this period [9, 10]. However, issues such as inflation stability were discovered in patients with large diameter of valve annules, balloon size and burst pressure. The percutaneous valvuloplasty of one or more Inoue ballons is also described [11]. A valvuloplastic technique with double balloon is occasionally employed, although three balloon valve valves are still quite unusual.

Clinical Presentation:

The patient was a female of 37 years old who was subjected to TOF surgery at the age of 4. After the operation, she had around 70 mmHg of pulmonary stenosis, although medical controls were carried out. On 29 August 2006, she was hospitalised for extensive evaluation and treatment after having experienced increased tiredness and dyspnoea during exercise. A pick-by-peak gradients of around 90 mmHg from the RV to the pulmonary artery were found in the cardiac catheterization and in the right Ventriculograph, a restricted pulmonary valve opening (domatic development) was found. The patient was again taken to the hospital on 27 November to percutaneous pulmonary valvuloplastic because of her incapacity to provide conservative treatment to ease subjective symptoms. She has been discovered to be 32 years old with tachycardial ventricular disease. Her family history had no past pregnancy, and there were no important variables in the history of her. Its physical condition during hospitalisation was as follows: 151.8 cm in height, 48.7 Kg in weight, regular pulse 70 beats per minute, blood pressure 90/52 mm Hg and indoor artery oxygen saturation 98%. Heart sounds revealed that on the left sternal edge of this second intercostal breakdown, the systolic IV/IV murmuring and the diastolic II/VI murmuring. In relation to respiratory sound, there were no abnormal observations. There has been no pre-tibial edoema. Blood Biochemical Test did not show abnormalities but the plasma brain's natural peptide (NPP) increased dramatically to 716 ng/ml. A normal 74 beat/minute rhythm sinus and a right aximum variation were observed on the remainder of the ECG, along with an entire bundle of the right branch. The 71.8 percent ratio of cardiothoracics was thoracic radiation, where second right arch projections had an infernal vena cava (IVC) diameter of 10 mm and respiratory variation. With the continuous wave doppler technology, a 77mmHg instantaneous gradient from the RV to the pulmonary artery was discovered. Pulmonary stenosis employing PVP therapy was dealt with on 29 November. The Doppler Instant Gradient from the RV to pulmonary arteries was around 23 mmHg at 6 months of postoperative transhormatory surgery and did not worsen, nor did the PR worsen. With the brief B-mode, transthoracic echocardiography showed the left ventricular septal displacement due to right ventricle hypertrophy.

DISCUSSION:

We have seen an adult with right chronic cardiac insufficiency due to the continuation of pulmonary stenosis following TOF. It is believed that right heart defect and severe arrhythmias are caused by prolonged pulmonary stenosis and that this is a crucial component of the TOF prognosis. TOF is a very important component. Valvuloplastic ballon In pummonary stenosis patients with cardiac insufficiency and pick up gradient of RV to pulmonary artery above 30 mmHg, the ACC/AHA task force recommended a balloon valvuloplasm. The suggested diameter for balloons is about 120–140 percent of the pulmonary valve annulus for individual valvuloplasty balloons as evaluated using the appropriate ventriculography. Due to the pulmonary annulus of the valve being 20 mm in diameter, under this condition, the efficient ball dilation diameter would be 24-28 mm. Because the diameter of the balloon is higher for an adult patient the risk of balloon rupture can't be increased by high bursting pressure. Using several globes, blood flow through spaces between the balloons is increased and the systemic pressure is temporarily dropped.. In short, since every ballon is small the time of deflation is short, hence the blocking period of perfusion should also be short. During the operation of this sample of study, there were not significant hemodynamic changes that could be a hindrance.

CONCLUSION:

Large structures like aorta, lower vein cava, and oesophagus were extended by the triple balloon. This three-ballon approach has been utilized by Gaylord et al to examine balloon geometrically in diameter. Based on their findings, two balls with a diameter of 12 mm and one ball with a diameter of 15mm might concurrently be inflated with the aim of reaching a diameter of around 26mm. Microindel et al. stated that the long-term success rate was limited, and reinterference is often essential after balloon valvulation procedure in RV / pulmonary artery patients with pinnacle-to- peak gradients of at least 36 mmHg. The RV-pulmonary gradient was 13 mmHg in the current patient after therapy and showed a beneficial attempt to lower pressure. The patient had a positive effect of RV-to-pulmonary arthritis. Following treatment, no increased chronic phase pressure was noticed and its subjective symptoms were subsequently relieved. Hence, we consider that valvular plastics are a potential strategy to improve the chronic forecast of pulmonary stenosis.

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