VENTRICULAR SEPTAL DEFECT CLOSURE IN JEHOVAH WITNESS PATIENT THROUGH RIGHT MINI THORACOTOMY

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Abstract

We are presenting a case report of ventricular septal defect closure from right mini thoracotomy. A 22 year old Jehovah witness female had undergone ventricular septal defect closure 6 month after infective endocarditis. She was operated through right mini thoracotomy, in 4th intercostal space, using right jugular, right femoral vein and femoral artery cannulation. During the procedure were used Edwards ThruPort instruments. Transesophageal echocardiography showed good result of the repair. Her postoperative course was uneventful and she was discharged on 5th post operative day.

Introduction

Median sternothomy allows for good exposure and safe repair of congenital defects. However, mini thoracotomy is cosmetically more attractive, there are fewer incidences of mediastinitis and shortened hospital stay. Right Mini thoracotomy is widely used for surgical approach of mitral valve surgery. In congenital heart disease right mini thoracotomy has been used mostly for atrial septal defect closure (1-3).

Case report

A 22 year old Jehoval witness female, with restrictive ventricular septal defect (6 mm, perimembranous, partially closed by tricuspid connective tissue) had infective endocarditis treated by antibiotics, and 6 month later she has been admitted in our clinic for surgery. Patient was placed in side elevated 30° position, under general anesthesia with endotracheal single-lumen intubation and transesophageal echocardiography monitoring. Superior vena cava was percutaneously cannulated by the anesthesiologist, through the right internal Jugular vein using Edwards’s cannula Fem- Flex II the 14 Fr. The Right femoral artery and vein were exposed by surgeon through a small inguinal incision and femoral artery and vein cannulae were inserted (Edwards Fem-Flex II th 18 Fr and Edwards Quick Draw 22Fr. respectively). Right mini thoracotomy (4 cm) in 4th intercostal space was performed. CO2 insufflations were started by the direct insertion of the canula in thoracotomy incision. Cardiopulmonary bypass was established. Aorta was clamped by Flexible clamp, myocardial protection was achieved with anterograde cardioplegic solution infusion through the root canula in ascending aorta. Right atriotomy was performed; the tricuspid valve tissue was displaced by silastics for
better exposure of perimembranous ventricular septal defect, partially closed by connected tissue of the tricuspid valve.
6 mm defect was closed with 3 auto pericardial plegeted sutures, using Edwards ThruPort instruments.
Right atrium was closed.
One epicardic wire was placed on right ventricle before aorta was released. During cardio pulmonary bypass cardioplegic cannula was taken out and extracorporeal circulation was stopped (cardio pulmonary bypass- 66 minutes, aortic clamp- 25 min).
Transesophageal ecocardiography has shown no residual shunt or tricuspid insufficiency.
Patient was extubated after 2 hours.
The postoperative course was uneventful and she was discharged from the hospital on 5th postoperative day.

Discussion
Right mini thoracotomy is extensively used for mitral surgery.
In congenital heart disease this approach has been used for atrial septal defect closure. There are few reports of ventricular septal closure performed with minimally invasive surgery. Sung-Ho Jung et AL have published VSD repair from right or left anterolateral mini thoracotomy in 9 adult patients (4,5).
We have performed restrictive perimembranous ventricular septal defect closure through right mini thoracotomy (4 cm) in the 4th intercostal space.
The exposure for this type of defect is not difficult and it was closed safely.

In conclusion, from our case, right minithoracotomy approach for restrictive perimembranous ventricular septal defect closure in adult patient seems to be a safe operation with good cosmetic outcome and short hospital stay.

References