DISCHARGE SUMMARY

PATIENT NAME: DIVYANSHU KUMAR	AGE: 3 YEARS, 8 MONTHS & 27 DAYS, SEX: M
REGN: NO: 12661261	IPD NO: 184329/23/1201
DATE OF ADMISSION: 16/10/2023	DATE OF DISCHARGE: 23/10/2023
CONSULTANT: DR. K. S. IYER / DR. NEERAJ AWASTHY	

DISCHARGE DIAGNOSIS

- Congenital heart disease
- **Large fossa ovalis atrial septal defect with deficient inferior rim (left to right shunt)**
- **Main pulmonary artery dilated, mildly tense**
- **Dilated right atrium and right ventricle**

OPERATIVE PROCEDURE

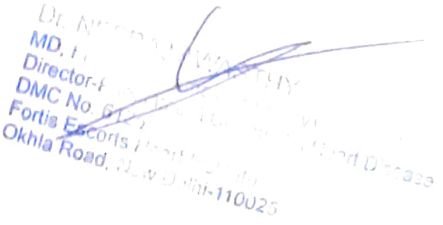
Trans – Right atrial Dacron patch closure of atrial septal defect done on 18/10/2023

RESUME OF HISTORY

Divyanshu Kumar is a 3 years old male child (date of birth: 21/01/2020) from Champapur (Bihar) who is a case of congenital heart disease. He is 2nd in birth order and is a product of full term normal vaginal delivery. His birth weight was 2.5 kg. Maternal age is currently 24 years. 1 sibling is apparently well (5 years old girl)

He had history of increasing heart rate for which he was shown to pediatrician. During evaluation, cardiac murmur was detected. Echo was done on 18/08/2020 in Shri Sai Hospital, Bihar which revealed Congenital heart disease – atrial septal defect. He was advised regular follow up. He was started on decongestive therapy.

A repeat Echo was done on 28/04/2022 in Shri Sai Hospital, Bihar which revealed Congenital heart disease – large atrial septal defect, dilated right atrium and right ventricle. He was advised surgical management but surgery was deferred due to financial constraints.



He had history of breathlessness on exertion for last 1year. He was again seen in Shri Sai Hospital, Bihar. Echo was done on 09/06/2023 Shri Sai Hospital, Bihar which showed large atrial septal defect, dilated right atrium and right ventricle. He was advised surgical management.

He was referred to Dr. K. S. Iyer at Fortis Escorts Heart Institute, New Delhi for further management

He was seen at FEHI, New Delhi on 24/07/2023. His saturation at that time was 99% with weight of 12.8 Kg and Height 99 cm. Echo was done which revealed normal segmental analysis, large fossa ovalis atrial septal defect (3 X 2.5cm), left to right shunt with deficient rims, laminar inflow, mild tricuspid regurgitation 2 equal papillary muscle, no mitral regurgitation, intact interventricular septum, laminar outflow in Left ventricular outflow tract, tricuspid aortic valve, normal origin coronaries, confluent branch Pulmonary arteries, trace pulmonary regurgitation max PG 15mmHg, flow related acceleration in Right ventricular outflow tract max PG 24mmHg, left arch, normal branching, no Coarctation of aorta, no Patent ductus arteriosus, no left superior vena cava, normal LVEF, dilated right atrium and right ventricle, RVIDd 3 (Z score +2.9), LVIDd 2.64 (Z score -2), LVIDs 1.7 (Z score -1.26), LVPWd 0.36 (Z score -0.94), MA annulus 1.86 (Z score -0.56), TV annulus 2.55 (Z score +1), aortic annulus 1.26 (Z Score +0.51), sinus 2.2 (Z score +2.7), Right pulmonary artery = Left pulmonary artery 11mm (Exp 8.5mm).

He was advised early surgical management.

Now he is admitted at FEHI, New Delhi for further evaluation and management. On admission, his saturation was 98% with His Hb was 14.4gm/dl and Hematocrit 38.2% on admission.

In view of his diagnosis, symptomatic status, echo findings he was advised early high risk surgery after detailed counselling of family members regarding possibility of prolonged stay as well as long term issues.

Weight on admission 12.7 kg, Height on admission 99 cm, Weight on discharge 12.5 kg

His Weight on admission 12.7 kg. (3rd Percentile); Z score 0 to – 2 SD

His blood Group A positive

Baby and his Mother SARS-COV-2 RNA was done which was negative.

All blood and urine culture were sterile.

INVESTIGATION:

ECHO

Done on 24/07/2023 revealed normal segmental analysis, large fossa ovalis atrial septal defect (3 X 2.5cm), left to right shunt with deficient rims, laminar inflow, mild tricuspid regurgitation 2 equal papillary muscle, no mitral regurgitation, intact interventricular septum, laminar outflow in Left ventricular outflow tract, tricuspid aortic valve, normal origin coronaries, confluent branch Pulmonary arteries, trace pulmonary regurgitation max PG 15mmHg, flow related acceleration in Right ventricular outflow tract max PG 24mmHg, left arch, normal branching, no Coarctation of aorta, no Patent ductus arteriosus, no left superior vena cava, normal LVEF, dilated right atrium and right ventricle, RVIDd 3 (Z score +2.9), LVIDd 2.64 (Z score -2), LVIDs 1.7 (Z score -1.26), LVPWd 0.36 (Z score -0.94), MA annulus 1.86 (Z score -0.56), TV annulus 2.55 (Z score +1), aortic annulus 1.26 (Z Score +0.51), sinus 2.2 (Z score +2.7), Right pulmonary artery = Left pulmonary artery 11mm (Exp 8.5mm)

POST OP ECHO

Done on 18/10/2023 (07:00 PM) revealed atrial septal defect patch in situ, no residual shunt, laminar inflow and outflow, trace tricuspid regurgitation, LVEF 50%, no collection

Done on 19/10/2023 revealed atrial septal defect patch in situ, no residual shunt, laminar inflow and outflow, trace tricuspid regurgitation, LVEF 50%, no collection

Done on 21/10/2023 revealed atrial septal defect patch in situ, no residual shunt, laminar inflow, trace tricuspid regurgitation max PG 10mmHg, no mitral regurgitation, laminar outflow, trace pulmonary regurgitation max PG 9mmHg, laminar flow in arch, normal LVEF, no collection, RVFAC 30%, aortic annulus 1.33cm (Z Score +1), sinus 2cm (Z score +1.8)

ABDOMINAL USG

Done on 16/10/2023 revealed Liver shows homogeneous normal echopattern. Intrahepatic biliary radicles are not dilated. Hepatic veins & portal vein (5mm in diameter) are normal. • Gall bladder shows normal anechoic pattern. G.B wall thickness is normal. • CBD is normal in caliber. • Pancreas is normal in shape, size & echopattern. • Spleen is

normal in size (span- 6.5cm) & echogenicity. • Both kidneys are normal in location, size, shape & echotexture. Cortical thickness & corticomedullary differentiation are well maintained. No dilatation of pelvicalyceal system is seen. -Right kidney measures – 5.7cm x 2.3cm. -Left kidney measures - 6.0cm x 2.1cm. • Urinary bladder is normal in contour. No calculi/filling defect seen. • No evidence of free fluid seen in abdomen

COURSE DURING STAY IN HOSPITAL (INCLUDING OPERATIVE PROCEDURE AND DATES)

Trans – Right atrial Dacron patch closure of atrial septal defect done on 18/10/2023

REMARKS: Diagnosis: - Acyanotic Congenital Heart Disease with increased pulmonary blood flow, Large Ostium Secundum Atrial Septal Defect. Operation:- Trans – right atrial Dacron patch closure of atrial septal defect. Operative Findings: - Situs Solitus, Levocardia, AV-VA concordance, Thymus – Present, Pericardium normal, Innominate vein normal, Superior vena cava normal, Inferior vena cava normal, Pulmonary Veins normal, Aorta normal, Main pulmonary artery dilated, mildly tense, Branch Pas adequate, Coronaries normal, right atrium and right ventricle dilated, interventricular septum intact, interatrial septum Large S fossa ovalis atrial septal defect with deficient inferior rim. Procedure: - Routine induction of general anaesthesia and placement of monitoring lines. Median sternotomy done. Thymus split. Pericardiotomy done, pericardial cradle created. Systemic heparinization (400 U/kg) given. Aorto-bicaval cannulation and Cardiopulmonary bypass initiated. Temperature drifted to 35°C. Aorta cross-clamped and heart arrested with cold blood cardioplegia delivered antegrade through the aortic root and topical cold saline. Both cavae snared. Right atrium opened parallel to the AV groove and stays taken. Atrial septal defect margin delineated and atrial septal defect closed with Dacron patch using 5-0 prolene continuous sutures. Left atrium de-aired prior to securing the last suture on the patch. Right atrium closed with 5-0 prolene continuous suture. After adequate de-airing, aortic cross clamp released. Heart recovered in normal sinus rhythm. Epicardial pacing wires (1 atrial and 1 ventricular) placed. Weaned with dobutamine 5mics/kg/min. Hemostasis secured. Protamine given followed by decannulation. Pericardium approximated with intermittent sutures over right atrium, right ventricle and aorta. Right pleura opened. Routine sternal closure over drains.

His post-operative course was smooth.

He was ventilated with adequate analgesia and sedation for 5 hours and extubated on 0 POD to oxygen by mask. Post extubation chest x-ray revealed bilateral mild patchy atelectasis. This was managed with chest physiotherapy, nebulization and suctioning.

He was shifted to ward on 1st POD. He was weaned from oxygen to air by 1st POD.

He was electively supported with dobutamine (0 – 1st POD → 2.5mic/kg/min @ 1.9 ml/hr) in view of large atrial septal defect closure and metabolic acidosis (BE -5.2mmol/L)

Decongestive therapy was given in the form of lasix (boluses) and aldactone.

There were no post-operative arrhythmias.

Pacing wire was removed on 3rd POD.

He had no fever or leucocytosis. His TLC was 13,550/cmm and platelets 2.51 lacs/cmm on 0 POD. All cultures till date are negative. Antibiotics were not required. He was clinically well and apyrexial all through. His predischarge TLC was 13,620/cmm and platelets were 2.82 lacs/cmm.

His pre-operative renal function showed (S. creatinine 0.32 mg/dl, Blood urea nitrogen 7 mg/dl)

His post-operative renal function showed (S. creatinine 0.27 mg/dl, Blood urea nitrogen 10 mg/dl) on 0 POD

His pre-discharge renal function showed (S. creatinine 0.25 mg/dl, Blood urea nitrogen 9 mg/dl)

His pre-operative liver functions showed (SGOT/SGPT = 29/20 IU/L, S. bilirubin total 0.45 mg/dl, direct 0.16 mg/dl, Total protein 6.9 g/dl, S. Albumin 4.4 g/dl, S. Globulin 2.5 g/dl Alkaline phosphatase 289 U/L, S. Gamma Glutamyl Transferase (GGT) 12 U/L and LDH 269 U/L).

He had mildly deranged liver functions on 1st POD (SGOT/SGPT = 78/16 IU/L, S. bilirubin total 0.78 mg/dl & direct 0.29 mg/dl and S. Albumin 4.5 g/dl). This was managed with avoidance of hepatotoxic drug and continued preload optimization, inotropy and after load reduction. His liver function test gradually improved. His other organ parameters were normal all through.

His predischarge liver function test are SGOT/SGPT = 35/16 IU/L, S. bilirubin total 0.41 mg/dl, direct 0.11 mg/dl, Total protein 6.6 g/dl, S. Albumin 4.1 g/dl, S. Globulin 2.5 g/dl Alkaline phosphatase 195 U/L, S. Gamma Glutamyl Transferase (GGT) 8 U/L and LDH 461 U/L).

Thyroid function test done on 18/10/2023 which revealed T3 5.09 pg/ml (normal range – 2.41 – 5.50 pg/ml), T4 1.86 ng/dl (normal range 0.96 - 1.77 ng/dl), TSH 3.480 µIU/ml (normal range – 0.700 – 5.970 µIU/ml).

Gavage feeds were started on 0 POD. Oral feeds were commenced on 1st POD.

CONDITION AT DISCHARGE

His general condition at the time of discharge was satisfactory. Incision line healed by primary union. No sternal instability. HR 120/min, normal sinus rhythm. Chest x-ray revealed bilateral clear lung fields. Saturation in air is 100%. **His predischarge x-ray done on 21/10/2023**

In view of congenital heart disease in this patient his mother is advised to undergo fetal echo at 18 weeks of gestation in future planned pregnancies.

Other siblings are advised detailed cardiology review.

PLAN FOR CONTINUED CARE:

DIET : Normal diet as advised

Normal vaccination (After 6 weeks from date of surgery)

ACTIVITY: Symptoms limited.

FOLLOW UP:

Long term cardiology follow- up in view of:-
1. Large atrial septal defect closure

Review on 27/10/2023 in 5th floor at 09:30 AM for wound review

Repeat Echo after 9 - 12 months after telephonic appointment

PROPHYLAXIS :

Infective endocarditis prophylaxis prior to any invasive procedure

MEDICATION:

- Tab. Pantoprazole 15 mg PO twice daily x 5 days
- Syp. Shelcal 2.5 ml PO twice daily x 3 months

- **Syp. Lasix 15 mg PO alternate days x one week and then stop**
- **Tab. Aldactone 7.5 mg PO alternate days x one week and then stop**

- **All medications will be continued till next review except the medicines against which particular advice has been given.**

Review at FEHI, New Delhi after 9 – 12 months after telephonic appointment
In between Ongoing review with Pediatrician

Sutures to be removed on 01/11/2023; Till then wash below waist with free flowing water

4th hrly temperature charting - Bring own your thermometer

- **Frequent hand washing every 2 hours**
- **Daily bath after suture removal with soap and water from 02/11/2023**

Telephonic review with Dr. Parvathi Iyer (Mob. No. 9810640050) / Dr. K. S. IYER (Mob No. 9810025815) if any problems like fever, poor feeding, fast breathing

D
MD
Direc
DMC
Fortis Esc
Okhla Road,