ORIGINAL RESEARCH PAPER
Volume - 9 | Issue - 12 | December - 2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

COARCTATION OF AORTA IN A NEWBORN: A CASE REPORT

Neonatology

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ABSTRACT

Among the group of congenital disorders,Congenital heart diseases are more common.It accounts for 19 in 1000 live births worldwide and 9% of deaths in children less than 1 year of age. The condition is most commonly missed due to low sensitivity of neonatal screening examination and the cardiac symptoms may not develop before 48 hours of life and before the closure of Patent ductus arteriosus.Here we present a case of 12 days old infant who presented with features suggestive of COA, the condition was confirmed by Echocardiography and the infant was successfully managed by surgical intervention.

KEYWORDS

Coarctation of aorta, Baloon dilatation angioplasty, Patent ductus arteriosus

INTRODUCTION:

It is a discrete narrowing of the Thoracic aorta seen proximal or distal to left subclavian artery.It accounts for 7% of congenital heart defects. Based on site of coarctation,it has three types. PREDUCTAL TYPE: COA just proximal to insertion of ductus arteriosus, associated with conditions like VSD, PDA and TGA. DUCTAL TYPE: Narrowing is at the site of insertion of ductus areteriosus, it appears after its closure. POSTDUCTAL COA: narrowing is distal to insertion.

Case presentation:

A 12 days old female baby presented with poor feeding and loss of weight. He was born at term by normal vaginal delivery and was discharged within 24 hours after a Routine Newborn checkup which was normal. At present,Clinical Examination showed mild tachycardia, tachypnea, weak femoral pulses, and a soft systolic murmur at the left sternal edge. The lungs were clear and the liver was enlarged by 2 cm. He was immediately referred to our Paediatric cardiology department, where after further investigation, a diagnosis of coarctation of the aorta was confirmed. The patient was started on Anti-failure medications and on prostaglandin analogues and then the newborn had undergone successful surgical correction (Baloon dilatation angioplasty was done) and doing well now.

DISCUSSION:

The presentation of Coarctation of aorta at birth is usually asymptomatic until closure of ductus arteriosus.Usually by 5 days of life infants develop poor feeding, trachypnoea, cool legs and feet and pale or grey skin discolouration which may reflect signs of CCF and cardiogenic shock. Failure to thrive may be noted.A harsh systolic murmur over the left sternal border is heard. Accentuated A2, systolic thrill in suprasternal area is felt. Radiofemoral delay, Suzman sign and Differential cyanosis are seen.Weak or absent femoral pulses are found in 92% of infants with COA.

Upper limb HT is noted in 97% of infants and usually systolic BP in upper limb is >20 mm hg than in the legs which is evident of COA. Older children may have exercise intolerance, leg fatigue and claudication, headache and symptoms of heart failure.

Investigations like Transthoracic echocardiography has 91% sensitivity in detecting COA.An ECG,reveals RVH or RBBB especially in preductal type. Xray chest shows cardiomegaly, pulmonary edema and signs of cardiac failure. MRI and CT scans are useful in older and post operative patients to assess residual arch obstruction, arch hypoplasia and formation of aneurysms.Cardiac catheterisation can be done for evaluation of severity of coarctation, anatomic nature of obstruction, arch anatomy.

The treatment is based on the clinical condition of the infant. Asymptomatic patients are treated conservatively. Prostaglandin E1 infusion is needed to maintain PDA. Anti-failure measures are taken to treat CCF (Digoxin and diuretics) and Control of Hypertension is done with anti-hypertensives.

The infant should be treated surgically if symptomatic irrespective of medical management. In infants and children weighing< 25 kg, BALOON DILATATION ANGIOPLASTY is preferred. In older children >25 kg STENTING is practised. Surgical excision of the affected segment with end to end anastamosis is the commonly followed surgical procedure. AORTOPLASTY is another surgical procedure done using subclavian flap, Bypass tube graft or Dacron graft.

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