

Congenital Diaphragmatic Hernia: A Case Report.

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Abstract: Congenital Diaphragmatic Hernia (CDH) is a rare entity with incidence of 1:3000 livebirths. The concern to know about this case is its morbidity and mortality. It can be detected antenatally with options for fetal interventions. Left sided hernia i.e., Bochdalek hernia is more common. It is more commonly associated with other anomalies. The morbidity and mortality are mainly due to pulmonary hypoplasia. Prenatal and postnatal interventions have definitely shown hopes in the management of the case.

INTRODUCTION

Congenital Diaphragmatic Hernia (CDH) is an anomaly which is rare and has little mortality and morbidity associated with malformations makes its prognosis worst. However the newer technologies have made it possible to reduce the morbidity and mortality. The imaging modalities and the interventional imaging modality and the interventional imaging mortality in the antenatal, intranatal and postnatal period have significantly raised the hope of survival.

CASE REPORT

22 years old young female with H/o of 9 months amenorrhoea admitted to the Obstetrics and Gynaecology department of our institute on 26-07-2011 for safe confinement. She had her regular antenatal visits. She was G₁P₁L₁, her previous pregnancy was also booked antenatally delivered by LSCS 2 years back alive healthy male baby. On admission here vitals and routine examinations were within normal limits. Her haematological biochemical, serological reports were within normal limits. She has undergone antenatal ultrasonography examination which revealed single live intrauterine term gestation with cephalic presentation with adequate liquor. She delivered a term live male baby by LSCS on 27-07-2011. Baby cried after birth with AG score 1'6/10 and 5'8/10. After 1 hour of birth the baby developed tachypnoea with heart rate 140/minute, respiratory rate 78/ minute. No cyanosis immediate chest X-ray, abdomen X-ray and blood for saturation checked. Baby was resuscitated with resuscitated measures. X-ray abdomen chest showed herniation of stomach and bowel loops into the left thorax with shifting of mediastinal structures to the right side (Fig.) with the postnatal diagnosis of congenital diaphragmatic hernia baby was referred to higher center as it needed intensive care.



DISCUSSION

Congenital Diaphragmatic hernia (CDH) is a rare but lethal anomaly. In 1679 Lazarus Riverius (1589-1655) recorded the first reported case of CDH following

postmortem examination of a 24 year male. Its antenatal detection is very important as it helps in the obstetric management as well as new born care. Knowing and becoming familiar with this entity helps in better management of the cases.

This anomaly occurs in approximately 1 in 3000 live births.¹ 80% are left sided CDH. Commonest type is the posterolateral or Bochdalek hernia, other types include Morgagni's hernia, diaphragm eventration and central tendon defects of the diaphragm. It results from failure of the pleuroperitoneal canal to close at the end of organogenesis.² A "dual hit" hypothesis is postulated – the defect arises in the embryologic period (1st hit) and during further gestation, lung development is impaired (2nd hit).³ The defect in the diaphragm allows the herniation of the abdominal viscera into the chest. This causes pushing of the mediastinal structures having adverse impact on the normal development of the fetal cardiac and pulmonary system. Thus this entity is associated with substantial morbidity and mortality.^{4,5,6,7} The major morbidity and mortality arises due to pulmonary hypoplasia and pulmonary hypertension.⁸

This condition can often be diagnosed before birth antenatally and fetal intervention can sometimes help depending on the severity of the condition. Infants born with diaphragmatic hernia experience respiratory failure due to pulmonary hypoplasia. There may be feeding difficulties, chronic respiratory disease, pneumonia, intestinal obstruction in the babies who survive early neonatal period. This entity is noted to be associated with other genetic anomalies like Smith-Lemli-Optizn syndrome, Di George syndrome, Chromosome 15, 18, 13, and 21 anomalies, Fryns syndrome, Pallister-Killian syndrome. There is associated anomalies like NTD-28%, Cardiovascular anomalies 9-27%, malrotation 20%, omphalocele and genital urinary anomalies 15%. Ultrasonologically it is diagnosed when there is solid/multicystic complex chest mass, mediastinal shift, foetal stomach at the level of heart, decreased AC ratio, herniated viscera into the chest shifting mediastinal structures. Fetal MRI (MRI lung volumetry, left ventricular mass and pulmonary artery diameter) and fetal echocardiography and survival. Amniocentesis is also useful to get the information regarding possible chromosomal abnormalities. Congenital Diaphragmatic Hernia (CDH) has to be differentiated from congenital adenomatoid malformation mediastinal cysts- like thymic, bronchogenic, neuroenteric cysts and teratoma.

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