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Primigravida with 40 Weeks of Gestation with Severe Preeclampsia with Dextro Cardia and Situs Inversus: An Unusual Case Report

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ABSTRACT

We present a 19yr old Primi Gravida with 40 weeks of gestation was referred to labour room Women & Children Hospital, affiliated to J.J.M.M.C, Davangere in view of high blood pressure for further management. She had ANC's in a nearby PHC. Her past medical history was not significant and general physical examination revealed severe PE, an apex beat located on 5th right intercostals space, suspected dextrocardia. Caesarean section was done in view of severe PE with Unfavourable cervix. During post-partum period, chest radiograph confirmed dextrocardia and also revealed the gastric air bubble on right side which suggestive of situs inversus totalis. Abdominal ultrasonography revealed a left sided liver, gall bladder with a right side location of spleen, aorta, and inferior venecava relationship altered.

Keywords: *Dextrocardia, Situs inversus, Situs inversus totalis, situs solitus.*

INTRODUCTION

SITUS INVERSUS also called **situs transversus or situs oppositus.** It is a congenital condition in which the major visceral organs are **reversed** or **mirrored** from their normal positions. The normal arrangement of internal organs is known as "**situs solitus"** while situs inversus is generally the mirror image of situs solitus. Although cardiac problems are more common than in the general population, most of them have no medical symptoms or complications resulting from the condition, and until the advent of modern medicine it was usually undiagnosed. Dextrocardia with a normal abdominal situs has a higher association with congenital Heart disease. DEXTROCARDIA (the heart being located on the right side of the thorax) was first seen and drawn by Leonardo da Vinci in 1452-1519 and then recognised by Marco Aurelio Severino in 1643 and described more than a century later by Matthew Ballie[(4)].

CASE REPORT

A 19-year- old Primigravida with full term pregnancy with severe pre-eclampsia was admitted for safe confinement.1st and 2nd trimesters were uneventful. She past medical history and surgical history was not significant. On physical examination general condition was fair and afebrile, BP – 170/100mm hg , cardiovascular examination revealed location of apex beat a the 5th right intercoastal space at the mid-clavicular line. All Other systems were normal. Per abdomen uterus full term size relaxed, longitudinal lie with vertex presentation & LOA position, liquor was adequate & fetal heart sound well heard in left lower quadrant with FHR of 138bpm. Per vaginal examination revealed uneffaced cervix with cervical os being closed. Pelvis was adequate & there was no cephalo pelvic disproportion presenting part, vertex was at -3 station.

Her Urine was loaded with albumin (4+) PE investigations were normal LFT & RFT were normal. Her consent was taken for surgery, high risk, perinatal risk, as well as photography for publishing a case She was taken for emergency LSCS in view of persistent hypertension in spite of antihypertensive (IV Labetalol) & under Spinal Anaesthesia Emergency LSCS done and extracted a single live term male baby of wt. 2kg at 10.50 am on 29/5/2015. There were no Intrapartum and post-partum complications. Antihypertensive were continued following delivery and was discharged on 7th day with Blood Pressure of 110/70mm Hg & both mother and baby were fine. Physician opinion was taken. Abdominopelvic scan showed dextrocardia with situs inversus visceralis.

DISCUSSION

Dextrocardia with Situs inversus is a rare condition found in about 0.01% of the population, about 1 person in 10,000[(2)]. It is generally an autosomal recessive genetic condition, sometimes it can be X-linked and also found in identical twins[(4)]. There is no sex predilection.[(3)] Rarely, it can run in families, but most often it is an isolated and accidental event occuring in an individual for the first time in the family[(4)]. Recent studies suggest that left-right asymmetry defects to be due to genetic abnormalities in lefty genes, nodal genes, and ZIC 3, ACVR2B and Pitxz genes. Mutation of genes present on **chromosome 12[(4)].**

Dextrocardia is usually associated with tetralogy of fallot's, Atrial septal defect, Ventricular septal defect and transposition of great Vessels as compared to Dextrocardia with normal situs solitus (Incidence 23%)[1]. Congenital anomalies such as pancreatic fibrosis, intrahepatic dysgnesis and renal dysplasia may be present. Respiratory anomalies like congenital absence of a lung, Bronchiectasis and Paranasal sinuses abnormality may be present also known as "KARTAGENER'S SYNDROME"[1]. Digestive anomalies are atresia or stenosis of duodenum, Persistent Meckel's diverticulum, Mega colon and anal Atresia[1]. **Apart** from chest radiography, methods of investigating these patients include Electrocardiography (ECG), Barium studies, Computerised Tomography (CT), Ultrasonography and Magnetic Resonance Imaging (MRI). CT and MRI are particularly useful in confirming situs inversus totalis.[3]

This condition unless associated with other anomalies may remain undetected, permitting affected patients to lead normal lives. This is supported by this case that was detected incidentally.

Specific Investigations: 1**. Chest X-ray:** Smt. Shankaramma,with IP.no 27795.

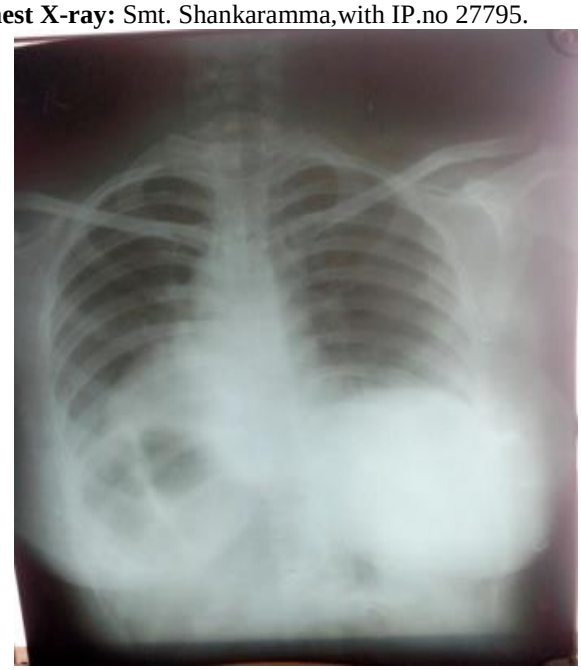
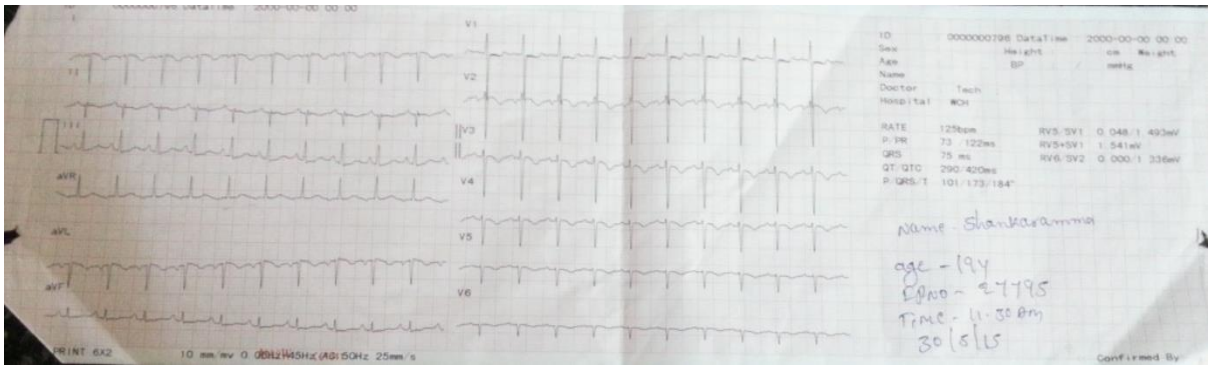


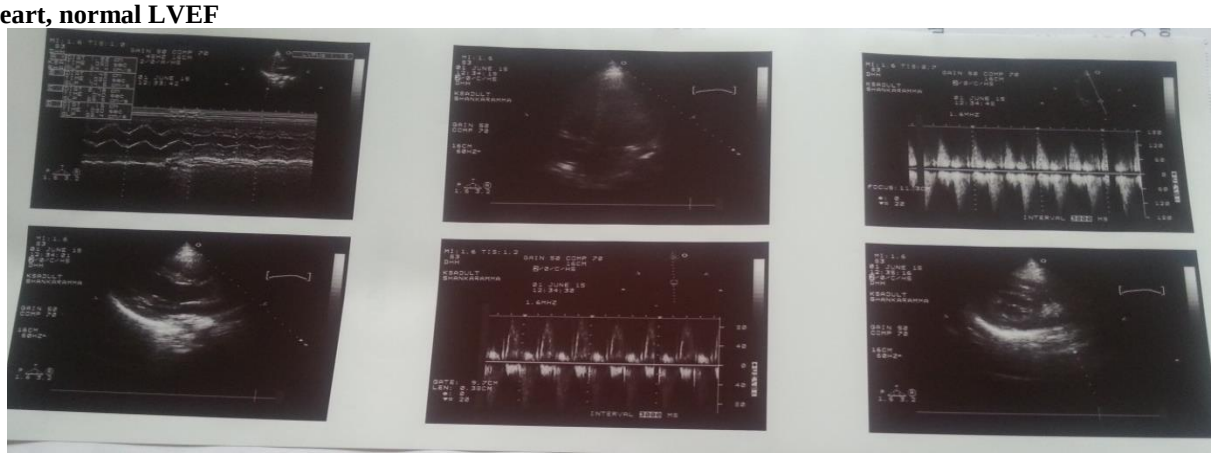
Fig 2: Poster anterior (PA) chest radiograph showing Cardiac apex (A) & the gastric fundal air bubble (G) on the right side.

2. The ECG impression: Dextrocardia with sinus tachycardia. The findings were,

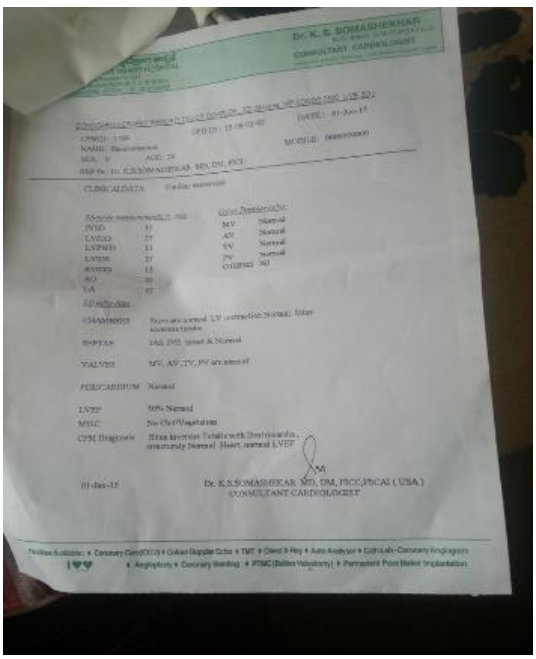
1. Right axis deviation.
2. Lead I inversion of all complexes-global inversion.
3. Absent R wave progression in chest leads. Domination of S wave throughout.
4. Positive QRS complexes in avr.



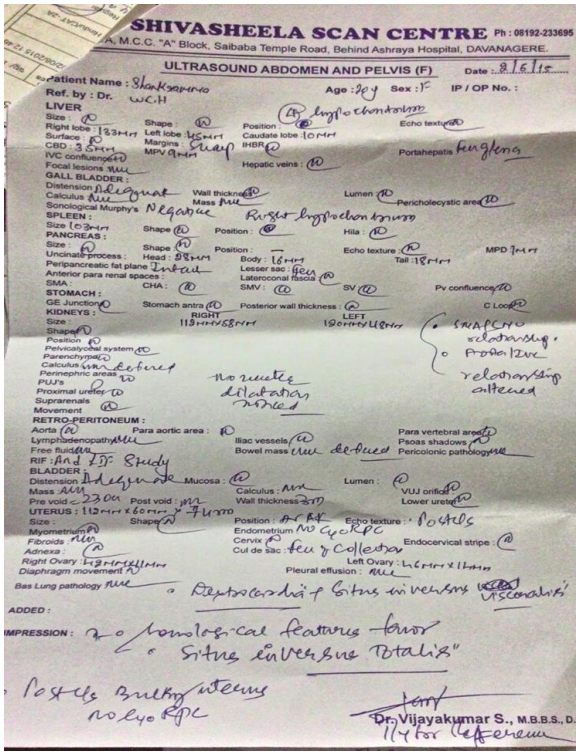
3. The 2D ECHO cardiography report showed Dextrocardia with situs inversus totalis, structurally normal heart, normal LVEF



Cardiologists Report:



4. USG of Abdomen & Pelvis:


SHIVASHEELA SCAN CENTRE Ph : 08192-233695
A, M.C.C. "A" Block, Saibaba Temple Road, Behind Ashraya Hospital, DAVANAGERE.
ULTRASOUND ABDOMEN AND PELVIS (F) Date : 8/6/15
Patient Name : Shankarappa Age : 29y Sex : F IP / OP No. :
Ref. by : Dr. W.C.H
LIVER
Size : Shape : Position : Echo texture :
Right lobe : 123mm Left lobe : 45mm Caudate lobe : 10mm
Surface : Margins : Sharp IHBR :
CBD : 3.5mm MPV : 9mm Portahepatis : Enlarged
IVC confluence : Hepatic veins :
Focal lesions : Nil
GALL BLADDER :
Distension : Adequate Wall thickness : Lumen : Pericholecystic area :
Calculus : Nil Mass : Nil
Sonological Murphy's : Negative
SPLEEN :
Size : 103mm Shape : Position : Hila :
PANCREAS :
Size : Shape : Position : Echo texture : MPD : 1mm
Uncinate process : Head : 28mm Body : 16mm Tail : 18mm
Peripancreatic fat plane : Intact Lesser sac :
Anterior para renal spaces : Latroconal fascia :
SMA : CHA : SMV : SV : Pv confluence :
STOMACH :
GE Junction : Stomach antra : Posterior wall thickness : C Loop :
KIDNEYS : RIGHT LEFT
Size : 113mm x 58mm 120mm x 48mm
Shape :
Position :
Pelvicalyceal system :
Parenchyma :
Calculus / Hydronephrosis : Refered
Perinephric areas :
PUJ's :
Proximal ureter :
Suprarenals :
Movement :
RETRO-PERITONEUM :
Aorta : Para aortic area : Para vertebral area :
Lymphadenopathy : Nil Iliac vessels : Psoas shadows :
Free fluid : Nil Bowel mass : Nil Pericolonic pathology : Nil
RIF : And I.V. Study
BLADDER :
Distension : Adequate Mucosa : Lumen :
Mass : Nil Calculus : Nil VUJ orifice :
Pre void : 230cc Post void : Nil Wall thickness : 3mm Lower ureter :
UTERUS : 112mm x 60mm x 47mm Position : AF RF Echo texture : Normal
Size : Shape : Endometrium : No Cyst/Pc
Myometrium :
Fibroids : Nil Cervix : Endocervical stripe :
Adnexa : Cul de sac : Few Collection
Right Ovary : 43mm x 41mm Left Ovary : 46mm x 11mm
Diaphragm movement : Pleural effusion : Nil
Bas Lung pathology : Nil
ADDED :
IMPRESSION :
Dr. Vijayakumar S., M.B.B.S., D.

CONCLUSION

Situs inversus totalis has number etiologic theories & many factors situs inversus. An incidental finding of situs inversus totalis reported and the need for clinicians to be aware of the peculiar surgical/ medical presentations of this rare condition is highlighted. Situs inversus complicates organ transplantation operations as donor organs will almost certainly come from situs solitus donors.

COMPLIANCE WITH ETHICAL REQUIREMENTS AND CONFLICT OF INTEREST

We have obtained written informed consent of this woman for taking photograph as well as for publishing the case in journal. There is no conflict of interest among authors

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