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Successful Pregnancy Outcome in Uncorrected Tetralogy of Fallot

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Abstract: Tetralogy of Fallot is the most common cyanotic congenital heart disease & accounts for 5-6% of congenital heart malformation. Its tetrad of ventricular sepatiental defect,aortic override,infundibular obstruction & right ventricular hypertrophy. We report a rare case of successful pregnancy outcome in a woman with uncorrected tetralogy of Fallot. 23 year old female k/c/o Tetralogy of Fallot diagnosed in childhood came for safe confinement to ANC out-patient in 12th week of pregnancy. She was married 18 months prior with 1 MTP done due to heart disease. Her LMP was 14/5/11 with previous regular cycles. Her 2-D Echo was s/o Tetralogy of Fallot with pulmonary atresia with PDA with collaterals with EF of 60%. Fetal echo was done & was found to be normal. At 26th week patient was admitted. On examination patient had peripheral cyanosis with clubbing. Patient was advised to maintain hydration & was given intermittent oxygen therapy. Patient was monitored regularly. Pregnancy is rarely seen in uncorrected TOF owing to shortened life expectancy as well as decreased fertility. Risk factors that worsen pregnancy include pre-pregnancy hematocrit exceeding 65%, a history of congestive cardiac failure or syncope, cardiomegaly, Right ventricular pressure exceeding 120 mm of Hg or oxygen saturation less than 80%. The likelihood of favorable outcome in mother with TOF depends upon functional cardiac capacity of mother before pregnancy, other complications that further increase cardiac load, quality of medical care provided throughout pregnancy & surgical correction of anomaly before conception.
Keywords: Tetralogy of Fallot, Pregnancy, Congenital heart disease, Right ventricular pressure.

INTRODUCTION

Tetralogy of Fallot is the most common cyanotic congenital heart disease & accounts for 5-6% of congenital heart malformation [1]. Its tetrad of ventricular sepatiental defect, aortic override, infundibular obstruction & Right ventricular hypertrophy [2]. Women with uncorrected tetralogy of Fallot do poorly during pregnancy & maternal mortality approaches 10% [3-5]. When hematocrit rises above 65% pregnancy wastage is virtually 100% [3, 4].

We report a rare case of successful pregnancy outcome in a woman with uncorrected tetralogy of Fallot.

CASE REPORT

A 23 year old female known case of Tetralogy of Fallot diagnosed in childhood came for safe confinement to ANC out-patient in 12th week of pregnancy. She was married 18 months prior with 1 MTP done due to heart disease. Her LMP was 14/5/11 with previous regular cycles. Her 2-D Echo was s/o Tetralogy of Fallot with pulmonary atresia with PDA with collaterals with EF of 60%. Fetal echo was done & was found to be normal.

At 26th week patient was admitted. On examination patient had peripheral cyanosis with clubbing. Her chest was clear except soft systolic murmur in CVS examination. Obstetric USG on 24/11/11 was s/o AGA 25 weeks 3 days with liquor was less than normal. ANC Doppler was normal. Patient was advised to maintain hydration & was given intermittent oxygen therapy. Patient was monitored regularly by 4 hourly fetal heart monitoring, weekly TLC-DLC, urine examination to r/o any infection, weekly PCV & Hb (our patient value -48% & 16gm/dl respectively) ,biophysical profile, USG & gravidogram to know fetal growth. Aminoinfusion was given for oligohydramnios.

As there was no growth for 6 weeks & liquor was getting decreased, patient was planned for elective caesarean section at 33 weeks 3 days. After anaesthetic checkup & fitness from cardiologist caesarean section was done for severe IUGR & severe oligohydramnios under General anaesthesia. A preterm IUGR male baby of 1 kg delivered on 6/1/2012 at 10.20am. Baby cried immediately after birth & shifted to NICU due to prematurity. Baby was put on oxygen inhalation & nasogastric feeding was started on 3rd day. Patients sutures were removed on Day 7 & patient was discharged on Day 11.

DISCUSSION

In Tetralogy of Fallot complex of anatomic malformation results from an anterior displacement of conasepatientum towards Right ventricle creating a mal-alignment VSD & narrowing of the outflow tract of Right ventricle. Aorta is displaced anteriorly & arising from both ventricles. Elevated pressure in right ventricle from outflow obstruction & exposure to systemic pressure from overriding aorta leads to RV hypertrophy. In TOF cyanosis results from Rt to Lt shunt at level of ventricles & inadequate pulmonary blood flow.

Pregnancy is rarely seen in uncorrected TOF owing to shortened life expectancy as well as decreased fertility [6]. Risk factors responsible for worsen pregnancy include pre-pregnancy hematocrit exceeding 65%, cardiomegaly, history of congestive cardiac failure or syncope, right ventricular pressure that exceeds 120 mm of Hg or less than 80% oxygen saturation [6, 7].

CONCLUSION

The likelihood of favorable outcome in mother with TOF depends upon functional cardiac capacity of mother before pregnancy, other complications that further increase cardiac load, quality of medical care provided throughout pregnancy & surgical correction of anomaly before conception.

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