Abstract

**Background:** Pregnancies with early onset fetal growth restriction have poor perinatal outcome. Sildenafil citrate (PDE -5 inhibitor) as a vasodilator increases uteroplacental blood flow and potentiates fetal growth.

**Case Presentation:** In this study, a case was examined and Sildenafil was administered for her. It was found that Sildenafil improved the uterine blood flow with a favorable fetal outcome at delivery.

**Conclusion:** Sildenafil, as a vasodilator has emerged as a potential management option in the treatment of Intra Uterine Growth Retardation (IUGR) and preeclampsia by later normalization in velocimetric profile.

**Keywords:** Fetal growth restriction, Pregnancy, Sildenafil citrate.

and Doppler. Unfortunately, Doppler again showed absent end diastolic flow after a few days and 2 doses of 12 mg betamethasone injection were administered for her 24 hr apart. Repeat Doppler after 3 days showed reversed end diastolic flow. At a gestational age of 30 weeks, then, patient and her husband were counseled regarding the need for emergency Caesarean section and the associated risks of perinatal morbidity and mortality. A live male baby of 800 gr was delivered and shifted to Neonatal Intensive Care Unit (NICU) for further management. After 80 days of NICU care, the baby was finally discharged healthy with a weight of 2.3 kg. After 1 month of discharge, mother and infant came for follow up and both were doing perfectly well. Also, the infant was checked by pediatrician and was found healthy.

**Discussion**

In pregnancies with fetal growth restriction and without preeclampsia, a reversible increased myometrial arterial tone by phosphodiesterase inhibition has been reported in vitro (3). Sildenafil citrate induces vasodilation through inhibition of type 5 phosphodiesterase (PDE5) (4). PDE5 is responsible for the degradation of cGMP to guanosine monophosphate. Therefore, inhibiting PDE5 delays the breakdown of cGMP and increases vasodilation (5). A recent report suggested that Sildenafil citrate stimulates vasodilation in myometrial biopsies collected from IUGR pregnancies at the time of Cesarean section (4).

In this study, Sildenafil with fetal growth restriction was used in an attempt to induce vasodilation and improve uteroplacental perfusion resulting in improved Doppler indices.

Currently, there is no effective therapy for severe early-onset FGR. Sildenafil citrate vasodilates the myometrial arteries isolated from women with IUGR-complicated pregnancies. Sildenafil treatment was associated with increased fetal AC growth (6).

**Conclusion**

To achieve optimal fetal growth, adequate blood flow in uteroplacental vascular function is essential. Abnormal vasculature adaptation, resulting in aberrant blood flow, has been implicated as a possible cause of fetal growth restriction (FGR) though Samangaya et al. ruled out prolonged pregnancy in women with preeclampsia using Sildenafil (7). Sildenafil, as a vasodilator has also emerged as a potential management option in the treatment of FGR and preeclampsia by later normalization in velocimetric profile.

**Conflict of Interest**

The authors declare no conflict of interest.

**References**