Placentation abnormalities are more common today as a result of the spread of the use of assisted reproductive techniques and increasing the incidence of cesarean delivery. Early diagnosis of these conditions that can lead to serious perinatal complications can contribute to the prevention of perinatal morbidity and mortality.

Vasa Previa is an uncommon variant of placental anatomy which defines as fetal vessels coursing within the membranes between the presenting part and the cervix [1]. Haemorrhage after the vessels are torn following spontaneous or artificial membrane rupture can result in a high fetal mortality rate of about 75-100% [2]. The fetal mortality is potentially preventable if corrected early, with diagnosis and pregnancy treatment being made before the onset of labour or after membrane rupture.

Here we present a case of vasa previa who prenatally diagnosed in second trimester routine sonographic evaluation and managed successfully with elective sectio abdominalis at 36th week of pregnancy.

CASE PRESENTATION

A 34-year-old woman, gravida 2, para 0, abortion 1, had routine ultrasound scan performed at 17 weeks of gestation and showed a low-lying placenta.

There was no pathologic finding except for polyhydramnios and pelvicaliectasis at 20th week of pregnancy anatomical screening ultrasound.

The cervical length was 37 mm. During antenatal follow-up, the patient was diagnosed with total placenta previa at 24th week of pregnancy, ultrasound scan at 31 weeks showed vasa previa and the decision was made delivery by elective caesarean section after 35th week of pregnancy (Figure 1 and 2).

An elective cesarean section was performed at 36 weeks and a 3120-g male baby was delivered with Apgar scores of 7 and 10 at 1 and 5 min. Macroscopic examination of the placenta was confirmed the findings of vasa previa. The postoperative hemoglobin was 12.5 g/dL and she was discharged on the postoperative 48 hours.
DISCUSSION

Vasa previa is defined as fetal blood vessels are present in the membranes covering the internal cervical os. The prevalence of vasa previa is approximately 1 in 2500 deliveries but is much higher in pregnancies conceived following use of assisted reproductive technologies (prevalence as high as 1 in 202) [1,2]. In type I vasa previa, membranous vessels may be associated with a velamentous umbilical cord and in type II vasa previa they may connect the lobes of a bilobed placenta and succenturiate lobe. Other situations which are correlate with increased risk of vasa previa are second-trimester low-lying placentas or placenta previa, bilobed or succenturiate lobe placentas in the lower uterine segment, and multiple gestations [1,2].

The pathogenesis of vasa previa is unknown. The most popular hypothesis is that the cord is initially inserted centrally, but its location progressively becomes peripheral as one half of the placenta actively proliferates toward the well-vascularized uterine fundus. The association of velamentous cord insertion and placenta previa supports this hypothesis [3].

Some case of vasa previa which is diagnosed at second trimester screening may resolve spontaneously. But commonly vasa previa persists until term and caused fetal bleeding upon spontaneous or artificial rupture of the membranes. In most cases, bleeding rapidly results in fetal anemia and hypotension, leading to fetal heart rate abnormalities, such as a sinusoidal pattern. Severe and acute fetal hemorrhage can cause fetal death within minutes. The membranous vessels are also at risk of compression by the fetal presenting part. Vasa previa is one of the major causes of bleeding in the third trimester. The perinatal mortality of ruptured vasa previa is about 60-75% [4-6].

The first report of ultrasonographic diagnosis of vasa previa appeared in the literature in 1987 [7]. Since then, several authors have reported the use of color Doppler imaging and transvaginal ultrasound techniques for the identification of vasa previa [8,9].

Prenatal diagnosis made by visualisation of fetal blood vessels over the internal os by ultrasonography and it is confirmed by demonstrating the traces of umbilical arterial or venous vessels. In 90% of cases, placenta previa is together with low-lying placenta, bilobe placenta or succenturiate placenta. In our case, there was placenta previa marginalis. Ultrasonography with a sensitivity of 78% and a specificity of 91%, has been reported to be effective for diagnosis in patients at high risk [10,11]. Color Doppler flow mapping confirms umbilical artery or vein waveforms. Although use of ultrasound in prenatal diagnosis is common and effective, majority of the cases are still recognized during birth so that it can lead to adverse neonatal outcomes. In high risk patients (placenta previa in the second trimester or low placenta, succenturiate lobe, multiple pregnancy, IVF, first-trimester bleeding), screening for vasa previa by transvaginal ultrasonography in the second trimester is a logical approach.

Neonatal survival is based on prenatal diagnosis and the gestational age at delivery. Today, despite the widespread availability of ultrasound facilities, many cases of unsuspected vasa previa are still diagnosed following rupture and its catastrophic consequences. The perinatal mortality of ruptured vasa previa is at least 56%. Oyelese and colleagues reported that with antenatal diagnosis and planned delivery neonatal survival 97 percent versus 44 percent without prenatally diagnosis [4]. In cases diagnosed in the prenatal period, 5. minute Apgar scores averages were higher than those diagnosed at term.

CONCLUSION

Screening of vasa previa with transvaginal ultrasound in antenatal care, especially at high risk patients is a useful approach for the prevention of adverse perinatal outcomes.

REFERENCES


Cite this article