

Case Report

Spontaneous Reseal of Ruptured Membranes after Genetic Amniocentesis

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Background: Rupture of membranes is an uncommon complication of genetic amniocentesis. The risk of ruptured membranes is reported as 1-1.2%.

Case: Genetic amniocentesis complicated by ruptured membranes was diagnosed in a 31-year-old woman. The membranes resealed after 48 hours with conservative management and the pregnancy ended with a favorable outcome.

Conclusion: Spontaneous reseal of ruptured membranes after genetic amniocentesis can occur with conservative management and end with a favorable pregnancy outcome.

Keywords: Spontaneous reseal, Rupture of membranes, Genetic amniocentesis

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Amniocentesis is performed to detect genetic anomalies by analyzing chemical and genetic markers in the amniotic fluid and fetal cells⁽¹⁾. Although genetic amniocentesis is indicated in pregnancies with an increased risk of chromosomal or structural defects, many low-risk women choose to undergo this procedure. Pregnancy loss is one of the complications associated with genetic amniocentesis. The reported rate is 0.5% when genetic amniocentesis was performed in the mid trimester⁽²⁾. Rupture of membranes is an uncommon complication of genetic amniocentesis. The risk of ruptured membranes is reported as 1-1.2%^(3,4). Physicians and patients are often afraid of the poor chance for a successful pregnancy outcome after preterm Premature Rupture Of Membranes (PROM) after genetic amniocentesis and may opt for pregnancy termination. This may be because of the known poor pregnancy outcomes associated with spontaneous preterm PROM in the mid trimester⁽⁵⁾. Herein, the authors report a case of spontaneous reseal of rupture

membranes after genetic amniocentesis with a favorable outcome.

Case Report

A 31-year-old woman, gravida 2, para 1-0-0-1, presented initially for antenatal care, at 8 weeks of pregnancy. She requested prenatal diagnosis because her first child had Down syndrome. Her first pregnancy was ended with cesarean section due to breech presentation four years previously. She and her husband had been checked for chromosome study with a normal result. Her medical and genetic histories were unremarkable. After extensive counseling on the risk of recurrent Down syndrome and the risk of complications from amniocentesis, she and her husband decided to have amniocentesis. At 17 weeks' gestation, genetic amniocentesis was performed with a 22-gauge (single insertion) under direct real-time ultrasonographic guidance. Clear yellow amniotic fluid was obtained. The ultrasonographic findings were normal, except for a placenta located posterior covering the cervical os. Cytogenetic analysis, later known, revealed a normal 46,XX chromosome pattern.

One day after genetic amniocentesis, she had a feeling of fluid leaking. Speculum examination

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revealed leakage of fluid from the cervix without cervical dilatation. The fern test from vaginal fluid was positive. She was hospitalized with diagnosis of PROM. She was afebrile. The non-tender uterus was enlarged to the size of 17 weeks' gestation. Ultrasonographic examination demonstrated a single fetus with normal heartbeat and movement and Amniotic Fluid Index (AFI) of 1.8 cm. Fetal biometry correlated with gestational age. Reseal was confirmed 48 hours after PROM by speculum examination and AFI increased to 5.4 cm. During observation there were neither clinical nor laboratory signs of chorioamnionitis. She was discharged for bed rest at home.

Thereafter, she had painless vaginal bleeding followed by uterine contraction at 33 weeks' gestation. Ultrasonographic examination confirmed a posterior placenta previa totalis. Oral nifedipine 10 mg every 6 hours was initiated to inhibit uterine contraction. 6 mg of dexamethasone intramuscularly injection every 12 hours in 4 dosages was used to stimulate fetal lung maturation. Cesarean section was performed at 35 weeks' gestation due to placenta previa totalis and previous cesarean section. A normal female neonate weighed 2,090 g with Apgar scores 6 and 8 at 1 and 5 min, respectively. Physical examination revealed no craniofacial dysmorphism or skeletal deformity. There was no sign of neonatal infection. The baby was complicated with mild respiratory distress syndrome, patent ductus arteriosus and neonatal jaundice, which required nasal CPAP, indomethacin and phototherapy, respectively. She was discharged home 10 days after her childbirth. She and her baby were well at the 6-week follow-up.

Discussion

This present case confirms that spontaneous reseal of ruptured membranes after genetic amniocentesis could occur after conservative management. Although complications after genetic amniocentesis are rare, they are anxiety-provoking events. The risk of ruptured membranes is reported to be 1-1.2%^(3,4). Other complications that were not found in this case included chorioamnionitis and fetal loss, found in less than 0.1 and 0.5%, respectively⁽²⁾.

The diagnosis in the present case was confirmed by speculum examination, fern test and ultrasonographic amniotic fluid index. All suspected rupture of membranes are confirmed by speculum examination, pH test, fern test, Nile blue test, ultrasonographic amniotic fluid index, or intraamniotic dye injection⁽⁶⁾.

Management of the present case was conservative including hospitalization and bed rest until there was no amniotic fluid leakage, surveillance for infection and neither antibiotic nor tocolytic drugs administration. This management was the same as that given in the guidelines for management of previable PROM⁽⁷⁾.

Spontaneous reseal of membranes in the present case occurred 48 hours after PROM. This time is similar to previous reports (6-72 hours after PROM)^(4,8-10). The average reseal rate is about 85% (66-100%)^(4,8,9).

The pregnancy outcome of the present case was good, and in line with previous reports^(3,4,8,10,11) that confirmed that pregnancies with ruptured membranes after genetic amniocentesis had a better pregnancy outcome, with 91% survival compared with a rate of 9% in cases of spontaneous PROM⁽³⁾.

Rupture of membranes after genetic amniocentesis is a puncture high in the amnion however, it is under sterile conditions. These circumstances are completely different from spontaneous ruptures of the lower pole of the amniotic sac, where ascending infections play an etiologic role. The management and prognosis of these two circumstances are different. Thus, the physicians should differentiate between PROM by puncture or after puncture and those occurring spontaneously at the lower pole of the amniotic sac.

Although there may be a risk for pulmonary hypoplasia and contractures related to oligohydramnios at gestational age less than 24 weeks⁽¹²⁾, these complications did not occur in the present case. This may be explained by a transient oligohydramnios.

In conclusion, in the case of ruptured membranes after genetic amniocentesis, conservative management should be used when chorioamnionitis has not developed. Spontaneous reseal of ruptured membranes after genetic amniocentesis can occur with conservative management and end with a favorable pregnancy outcome.

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การปิดเองของถุงน้ำคร่ำที่รั่วหลังการเจาะถุงน้ำคร่ำเพื่อส่งตรวจทางพันธุศาสตร์

วรพงษ์ ภูพงศ์, พรทิพย์ อัครสวัสดิ์

การรั่วของถุงน้ำคร่ำเป็นภาวะแทรกซ้อนจากการเจาะถุงน้ำคร่ำเพื่อส่งตรวจทางพันธุศาสตร์ ที่พบได้ไม่บ่อย ความเสี่ยงที่จะเกิดการรั่วของถุงน้ำคร่ำพบได้ร้อยละ 1-1.2 คณะผู้รายงานได้รายงานผู้ป่วยหญิงอายุ 31 ปีที่มีการรั่วของถุงน้ำคร่ำหลังจากการเจาะถุงน้ำคร่ำเพื่อส่งตรวจทางพันธุศาสตร์ ถุงน้ำคร่ำที่รั่วได้ปิดเองใน 48 ชั่วโมงหลังให้การรักษาแบบอนุรักษ์ และการตั้งครรภ์สิ้นสุดลงด้วยผลลัพธ์ที่ดี

โดยสรุป การปิดของถุงน้ำคร่ำที่รั่วหลังการเจาะถุงน้ำคร่ำเพื่อส่งตรวจทางพันธุศาสตร์สามารถเกิดขึ้นได้เอง โดยการให้การรักษาแบบอนุรักษ์และสิ้นสุดลงด้วยผลลัพธ์ของการตั้งครรภ์ที่ดี
