
بسم الله الرحمن الرحیم

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ANTEPARTUM MANAGEMENT

- should be counseled about :

risks associated with these pregnancies

Fetal reduction

cesarean birth

Performing ultrasound in the first or early second trimester to ascertain chorionocity

- Surveillance of triplet pregnancies includes :

more frequent ultrasound examinations

frequent office visits ,particularly after 20 weeks

- **In the second half of pregnancy**:

at increased risk for preterm delivery

preeclampsia

fetal growth discordance

Delivery planning with an onsite level III neonatal intensive care unit should be considered for women with triplet pregnancies.

Timing and frequency of ultrasound examination

- Determination of amnionicity and chorionicity, in the first trimester is critical for:

risk assessment

counseling

pregnancy management

Timing and frequency of ultrasound examination

- Triamniotic dichorionic triplets

Monochorionic placentation in any multiple gestation places the involved fetuses at high risk for ***TTTS and discordant growth***

Triamniotic dichorionic triplets

- Up to date:

follow a protocol similar to that commonly used for managing monochorionic twin pregnancies

Triamniotic dichorionic triplets

- Starting at about 16 weeks ultrasound examination
- every two weeks

✓ to determine the maximum vertical **amniotic** fluid pocket for each sac

✓ and to visualize the **bladder** of each fetus.

Triamniotic dichorionic triplets

- Fetal growth is assessed every two to four weeks
- In pregnancies with discordant amniotic fluid volume or fetal growth, umbilical artery Doppler assessment should be performed

Quintero stages for classification of twin-twin transfusion syndrome

• Stage I	• bladder of the donor twin is visible
• Stage II	• the bladder of the donor is not visualized
• Stage III	• nonvisualized bladder, and abnormal Doppler, absent/reversed end diastolic velocity in the umbilical artery, reversed flow in a-wave of the ductus venosus in either fetus.
• Stage IV	• One or both fetuses show signs of hydrops
• Stage V	• One or both fetuses have died.

Monoamniotic or diamniotic triplets

- Monoamniotic placentation in any multiple gestation places the involved fetuses at high risk of **cord entanglement** and death from cord compression
- They are also at risk of **TTTS**

- Instead, at about 26 weeks of gestation, the patient is admitted to the hospital for one hour of continuous fetal heart rate monitoring every eight hours.
- Ultrasound monitoring for TTTS is the same as that described above for triamniotic dichorionic triplets.

Triamniotic trichorionic triplets

- growth restriction is the major concern. Starting at 20 weeks, ultrasound examination is performed every three to four weeks to monitor fetal growth

Office visits

In the **first half of pregnancy** as routine for singleton pregnancy.

at 24 weeks of gestation:

see patients weekly to closely monitor for signs/symptoms of **preeclampsia and preterm labor**.

There is limited evidence that weekly visits improve outcomes, so visits every two weeks are also reasonable.

Biophysical profile

- There are no evidence-based guidelines for when and how often antepartum fetal testing should be performed
- If monitoring is indicated, the biophysical profile is our first-line testing strategy because it allows us to identify and access each fetus and avoid technical difficulties encountered with performing non-stress test in higher-order multiples, similar to what has been reported by other

fetal testing should be done based on the type of chronicity

- Triamniotic dichorionic triplets

For triamniotic dichorionic triplets, starting weekly biophysical profile score at 28 weeks because all of these pregnancies are at high risk for fetal complications.

Non-stress tests are a reasonable alternative.

- Triamniotic trichorionic triplets

only initiate antepartum fetal testing (eg, biophysical profile score, nonstress test) if the pregnancy is complicated by a maternal or fetal disorder such as preeclampsia or fetal growth restriction. The frequency of testing depends on the clinical scenario

- Monoamniotic or diamniotic triplets

Monoamniotic or diamniotic triplets are hospitalized at about 26 weeks of gestation and monitored three times daily with one hour of continuous fetal heart rate monitoring *looking for decelerations* , **rather than by the biophysical profile**, because, which suggest cord entanglement with cord compression

Monitoring for preterm labor

- do not perform

routine digital cervical examination

fetal fibronectin screening

home uterine activity monitoring

Cervical length measurement is not a sensitive screening test for prediction of preterm birth in multiple gestations

Physical and sexual activity

- After about 20 weeks of gestation, can rest and reduce activity in and outside of the home, as needed.
- Sexual intercourse does not appear to increase the risk of preterm birth

Potential second and third trimester complications

- Fetal demise — The rate of fetal demise after 22 weeks of gestation is related to chorionicity
- 0.8 percent of trichorionic
- 2.7 percent of monochorionic
- After demise of one or two triplets with monochorionic placentation:

✓ delivery timing on the usual standards for the remaining twin or singleton gestation

✓ weekly biophysical profiles

✓ nonstress tests are a reasonable alternative

✓ serial ultrasound growth scans

Potentially useful interventions

- administration of corticosteroids and Magnesium sulfate may reduce neonatal morbidity.

Antenatal corticosteroids

- a second course of antenatal corticosteroids should be offered if:

it has been more than a week since the prior course

the patient is at increased risk for preterm birth within the next seven days

the pregnancy is less than 34 weeks.

Magnesium sulfate

- magnesium sulfate should be offered for neuroprotection to those triplet pregnancies at risk for imminent delivery within 24 hours between 23+0 and 31+6 weeks.
- Marret regimen can be used ,4 g magnesium sulfate bolus over 30 minutes with no continuous infusion
- Other regimes (eg, 4 g bolus with 1 g/hour continuous infusion) can also be used.

Prophylactic cerclage

- Prophylactic cerclage in women with a triplet gestation without a history of cervical insufficiency does not prolong gestation or improve neonatal outcomes and should be avoided.

- In the rare clinical scenario when someone who has a history of cervical insufficiency is now carrying triplets, since there is no proven benefit and prior studies showing possible harm in multiples with cerclage, we do not offer a cerclage but **rather strongly recommend consideration of reduction**.

- Prophylactic pessary — In the largest randomized trial of 808 women, the use of prophylactic pessaries in unselected multiple gestations was not shown to decrease the incidence of poor perinatal outcomes and therefore is not recommended.

- Bedrest —

not improve the pregnancy outcome

Increased risk of thrombosis

Progesterone supplementation

- routine progesterone supplementation in triplet pregnancies did not reduce the frequency of fetal loss or spontaneous preterm birth.

Tocolytics

- tocolytic for 48 hours to allow for administration of betamethasone .
- A calcium channel blocker or nonsteroidal anti-inflammatory drug, depending on gestational age, is the preferred tocolytic

Preeclampsia

triplet pregnancies 10 percent

singleton gestations 6.5 percent

Preeclampsia occurs earlier and is more severe in multiple gestations

Prevention of preeclampsia

Aspirin (81 mg/day) initiated between 12 and 28 weeks of gestation

Screening and management of GDM

screening is suggested in the **first trimester**.

Other complications

- Nausea and vomiting of pregnancy
- Abruption placenta has been reported in 1.6 percent of triplet pregnancies versus <1 percent of singleton pregnancies
- Thrombocytopenia occurs in up to **one-third** of triplet gestations. ***The most common cause is preeclampsia***
- Acute fatty liver has been reported in up to **7 percent** of triplet pregnancies versus 1 in 10,000 singleton pregnancies
- Intrahepatic cholestasis is observed more commonly in multiple gestations.
- Multiple gestation is a risk factor for uterine atony resulting in hemorrhage, transfusion, and possibly hysterectomy.
- Postpartum depression and other psychological disorders are more common after a multiple birth

Delivery timing

- based on the type of **amnionicity**

Monoamniotic or diamniotic triplets

are delivered by cesarean at about 32+4 weeks of gestation (between 32+0 to 32+6 weeks)

Triamniotic triplets

Uncomplicated triplet pregnancies with three amniotic sacs, whether monochorionic, dichorionic, or trichorionic, are delivered between 35+0 and 35+6 weeks of gestation