

Review on multiple pregnancies and its management; a COVID impact

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Abstract:

Multiple pregnancies is a pregnancy in which more than one fetus develops in the uterus at the same time. Each woman may have slightly different symptoms. But most common symptoms of multiple pregnancies are unusual rate of abdominal enlargement uterus is larger than expected for the dates in pregnancy, more morning sickness, greater appetite, too much weight gain, fetal movement felt in different parts of the stomach at the same time. Multiple pregnancies can be diagnosed as pregnancy blood testing level of human chorionic gonadotropin (HCG) may be quite high with multiple pregnancies, alpha fetoprotein – levels of protein released by the fetal liver and found in the mother's blood may be high when more than 1 fetus is making the protein, ultrasound. Management of multiple pregnancies is increased nutrition, more frequent prenatal visits, referrals, increased rest, maternal and fetal testing, tocolytic medications cervical cerclage, corticosteroid medications. Covid-19 symptoms are also affecting the mother with multiple pregnancies.

Keywords- multiple pregnancy, covid-19, novel corona virus, twin pregnancy.

Background:-

The epidemic of covid -19 that appeared late 2019 in china, resulted in a broad ongoing transmission worldwide including iran,novel corona virus rapidly develops into alveolar injury and progressive respiratory failure.

At the same time the health of pregnant women has become particularly important because maternal organs undergo many changes due to effects of pregnancy. In china, all studies of covid-19 pregnant women included single fetus and no maternal deaths were reported by the virus. A 38 years old with twin pregnancy was admitted to Imam Hossein hospital with complaints of fever, dry cough, and dyspnea, who were later diagnosed with covid-19.

A case of pregnant woman (G2Ab1, twin pregnancy with microinjection, gestational age 23 weeks and 3 days) referred to the center with a complains of fever and dry cough and dyspnea. She was admitted with a diagnosis of covid-19. During the hospitalization, O2 saturation progressively decreased, which led to patients to get intubate progressive recovery with treatment. Unfortunately , she was intubated again due to decreased oxygen saturation , 5 days later liver enzymes increased then both fetuses died intrauterine ,the cardiac output then declined to 10% and mother died within hours.¹

Introduction:-

Multiple pregnancy:- multiple births are much more common today than they were in the past. Multiple pregnancy is a pregnancy in which more than one fetus develops in the uterus at the same time. A multiple pregnancy from a single zygote is called monozygotic, from two zygote is called polyzygotic.²

A multiple pregnancy is a pregnancy with 2 or more fetuses. Some names for these are:

- 1) Twins for two fetuses
- 2) Triplets for three fetuses
- 3) Quadruplets for four fetuses

- 4) Quintuplets for five fetuses
- 5) Sextuplets for six fetuses
- 6) Septuplets for seven fetuses

Corona virus (COVID-19): Corona virus disease (COVID-19) is an infectious disease caused by a newly discovered corona virus.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease and cancer are more likely to get serious illness. The best way to slow down and prevent transmission is to be well informed about the COVID-19 virus, the disease it causes and how it is spreading. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently, and not touching your face.³

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. So, it's important that you also practice respiratory etiquettes (for examples- by coughing into a flexed elbow)

Incidence rate:

Multiples make up only about 3 in 100 births, but the multiple birth rates are rising. According to the National center for health statistics, the twin birth rate has risen 70% since 1980. It is now 32.6 per 1000 live births. The birth rate for triplets and other higher order multiples rose dramatically.

Twin pregnancies occur in about one in 250 pregnancies, triplets in about one in 10,000 pregnancies and quadruplets in about one in 700,000 pregnancies.⁴

Risk factors for multiple pregnancies:

The main factor that increases your chances of having a multiple pregnancy is the use of infertility treatment, but there are other factors.

Race: The overall rate of twins for all races in the United States is around 33 per 1,000 live births. Black women are more likely to get multiple pregnancies.

Heredity: the mother's family history may be more significant than the father's. Non-identical twins at the rate of 1 set per 60 births. However, non-identical male twins father twins at a rate of 1 set per 125 births.

Maternal age and history of pregnancies: the frequency of twins increases with maternal age and number of pregnancies. Women between 35-40 years of age with 4 or more children are 3 times more likely to have twins than a woman under 20 without children.⁵

Maternal height and weight: Non-identical twins are more common in large and tall women than in small women. This may be related more to nutrition than to body size alone.

Fertility drugs and assisted reproductive technology: Multiple pregnancies is more common in women who utilize fertility medications to undergo ovulation induction. Use of drugs to cause ovulation induction has caused the vast majority of the increase in the multiples.

Approximately 30% of pregnancies resulting from gonadotropins are multiples.⁶

Assisted reproductive technology (ART): Procedures such as in vitro fertilization (IVF) also contribute to the increase in the multiple birth rates. The risk of multiple pregnancy increases as the number of embryos transferred increases.

Management of multiple pregnancies may include following:

1. Increased nutrition: Mothers carrying two or more fetuses need more calories, protein, and other nutrients, including iron.
2. More frequent prenatal visits: Multiple pregnancy increases the risk for complications. More frequent prenatal visits may help to detect complications early enough for effective treatment or management. The mother's nutritional status and weight should also be monitored more closely.⁷
3. Referral: referral to a maternal-fetal medicine specialist for special testing or ultrasound evaluations, and to coordinate care of complications, may be necessary.
4. Increased rest: Some women may also need bed rest-either at home or in the hospital depending on pregnancy complications or the number of fetuses.
5. Maternal and fetal resting: Testing may be needed to monitor the health of the fetuses, especially if there are pregnancy complications.
6. Tocolytic medications: Tocolytic medications may be given, if preterm labor occurs, to help slow or stop contractions of the uterus. These may be given orally, in an injection, or intravenously. Tocolytic medications often used include magnesium sulfate.⁸
7. Corticosteroid medications: Corticosteroid medications may be given to help mature the lungs of the fetuses. Lung immaturity is a major problem of premature babies.
8. Cervical cerclage: Cerclage (a procedure used to suture shut the cervical opening) is used for women with an incompetent cervix. This is a condition in which the cervix is physically weak and unable to stay closed during pregnancy. Some women with higher-order multiples may require cerclage in early pregnancy⁹

Complications of multiple pregnancies:

1. Preterm birth: Preterm labor and birth are the greatest risk to a multiple pregnancy.60% of multiples are born prematurely (<37 weeks).
2. Placental problems: The placenta is attached to the wall of the uterus, and the fetus is to the placenta by the umbilical cord. The placenta provides blood, oxygen, and nutrition to the fetus through the umbilical cord.
3. Preeclampsia: Preeclampsia, also known as toxemia, occurs 2-5 times more often in multiple pregnancies.
4. Diabetes: Women with multiple pregnancies are more likely to develop gestational diabetes during pregnancy.
5. Fetal and newborn complications.¹⁰

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