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Non Diabetic Hypoglycemia: A Rare Cause of Still Birth

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Introduction

Stillbirth is typically defined as fetal death after 24 weeks of gestation,[1] but a baby greater than any combination of 16, 20, 22, 24, or 28 weeks gestational age and 350g, 400g, 500g, or 1000g birth weight may be considered stillborn depending on local law.[2] To allow comparison, the World Health Organization recommends that any baby born without signs of life at greater than or equal to 28 weeks' gestation be classified as a stillbirth.[3] Once the baby has died, the mother may or may not have contractions and undergo childbirth or in some cases, a Caesarean section. Most stillbirths occur in full-term pregnancies. The cause is often unknown.[1] The average stillbirth rate in the United States is approximately 1 in 160 births, which is roughly 26,000 stillbirths each year. In Australia, England, Wales, and Northern Ireland, the rate is approximately 1 in every 200 births; in Scotland, 1 in 167.

The vast majority of stillbirths worldwide (98%) happen in low and middle-income countries, where medical care can be of low quality or unavailable. Reliable estimates calculate that yearly about 2.6 million stillbirths occur worldwide during the third trimester.

I. Case report

23 yr old primigravida married for 4years (1st degree consanguinous marriage)conceived after taking infertility treatment for one month presented at term with complaints of pain abdomen and backache.On admission her vitals was stable and per abdomen was term size, cephalic presentation and head fixed and with 1-2 contraction of 15sec in 10mins.On admission NST was reactive.Lab reports: hb 11.2, tlc 11,700 ,platelet 2,11,000, LDH was raised -1460,uric acid- 7.7, RBS- 58, FBS- 58, PPBS- 77.5, HBA1C - 4.81,GCT- 110.9. In thyroid profile, t4 was raised- 15.9 (TSH 2.24), VDRL negative .USG (6/4/16) showed single live intrauterine fetus,37.2 wks, afi 11cm cephalic presentation, placenta posterior, EFW 3kg. Patient in the first stage of labor was induced with tab Misoprostol 25mcg per vaginal and inj.pitocin 2.5 units was started after she progressed to active labour. All the stages of labour were uneventful .NST was reactive throughout.

She delivered a male baby still born weighing 3.7kg on 14th april 2016 at 5.30am.APGAR score was 0. Baby's external appearance showed anasarca, firm swelling over right parietal region and swelling over neck. On visualisation, both vocal cords were swollen with mongoloid features.

II. Discussion

The causes of a large percentage of stillbirths remain unknown, even in cases where extensive testing and autopsy have been performed. A rarely used term to describe these is "sudden antenatal death syndrome", a phrase coined by Cacciatore & Collins in 2000.[4] Many stillbirths occur at full term to apparently healthy mothers, and a postmortem evaluation reveals a cause of death in only about 40% of autopsied cases.[5]

In cases where the cause is known, some possibilities of the cause of death are:

- bacterial infection, like syphilis
- malaria
- birth defects, especially pulmonary hypoplasia
- chromosomal aberrations
- growth retardation
- Induced Fetal Demise
- intrahepatic cholestasis of pregnancy
- high blood pressure, including preeclampsia
- maternal consumption of recreational drugs (such as alcohol, nicotine, etc.) or pharmaceutical drugs contraindicated in pregnancy
- postdate pregnancy
- placental abruptions
- physical trauma
- radiation poisoning
- Rh disease
- celiac disease
- female genital mutilation
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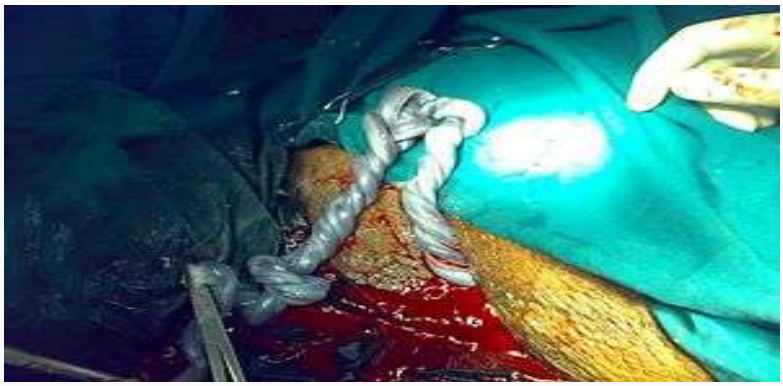

Entanglement of cord in twin pregnancy at the time of Caesarean Section

- umbilical cord accidents
- Prolapsed umbilical cord – Prolapse of the umbilical cord happens when the fetus is not in a correct position in the pelvis. Membranes rupture and the cord is pushed out through the cervix. When the fetus pushes on the cervix, the cord is compressed and blocks blood and oxygen flow to the fetus. The mother has approximately 10 minutes to get to a doctor before there is any harm done to the fetus.
- Monoamniotic twins – These twins share the same placenta and the same amniotic sac and therefore can interfere with each other's umbilical cords. When entanglement of the cords is detected, it is highly recommended to deliver the fetuses as early as 31 weeks.
- Umbilical cord length - A short umbilical cord (<30 cm) can affect the fetus in that fetal movements can cause cord compression, constriction and ruptures. A long umbilical cord (>72 cm) can affect the fetus depending on the way the fetus interacts with the cord. Some fetuses grasp the umbilical cord but it is yet unknown as to whether a fetus is strong enough to compress and stop blood flow through the cord. Also, an active fetus, one that frequently repositions itself in the uterus can cause entanglement with the cord. A hyperactive fetus should be evaluated with ultrasound to rule out cord entanglement.
- Cord entanglement - The umbilical cord can wrap around an extremity, the body or the neck of the fetus. When the cord is wrapped around the neck of the fetus, it is called a nuchal cord. These entanglements can cause constriction of blood flow to the fetus. These entanglements can be visualized with ultrasound.
- Torsion – This term refers to the twisting of the umbilical around itself. Torsion of the umbilical cord is very common (especially in equine stillbirths) but it is not a natural state of the umbilical cord. The umbilical cord can be untwisted at delivery. The average cord has 3 twists.

After a stillbirth there is a 2.5% risk of another stillbirth in the next pregnancy (an increase from 0.4%). It is unknown how much time is needed for a fetus to die. Fetal behavior is consistent and a change in the fetus' movements or sleep-wake cycles can indicate fetal distress. A decrease or cessation in sensations of fetal activity may be an indication of fetal distress or death, though it is not entirely uncommon for a healthy fetus to

exhibit such changes, particularly near the end of a pregnancy when there is considerably less space in the uterus than earlier in pregnancy for the fetus to move about. Still, medical examination, including a nonstress test, is recommended in the event of any type of any change in the strength or frequency of fetal movement, especially a complete cease; thus it is recommend the use of a kick chart to assist in detecting any changes. Fetal distress or death can be confirmed or ruled out via fetoscopy, ultrasound, and/or electronic fetal monitoring. If the fetus is alive but inactive, extra attention will be given to the placenta and umbilical cord during ultrasound examination to ensure that there is no compromise of oxygen and nutrient delivery.

Constricted umbilical cord

When the umbilical cord is constricted (q.v. "accidents" above), the fetus experiences periods of hypoxia, and may respond by unusually high periods of kicking or struggling, to free the umbilical cord. These are sporadic if constriction is due to a change in the fetus' or mother's position, and may become worse or more frequent as the fetus grows. Extra attention should be given if mothers experience large increases in kicking from previous childbirths, especially when increases correspond to position changes.

Regulating High blood pressure, diabetes and drug use may reduce the risk of a stillbirth. Umbilical cord constriction may be identified and observed by ultrasound, if requested.

Some maternal factors are associated with stillbirth, including being age 40 or older, having diabetes, having a history of addiction to illegal drugs, being overweight or obese, and smoking cigarettes in the three months before getting pregnant.

III. Conclusion

Fetal death *in utero* does not present an immediate health risk to the woman, and labour will usually begin spontaneously after two weeks, so the woman may choose to wait and bear the fetal remains vaginally. After two weeks, the woman is at risk of developing blood clotting problems, and labor induction is recommended at this point. In many cases, the woman will find the idea of carrying the dead fetus emotionally traumatizing and will elect to have labor induced. Caesarean birth is not recommended unless complications develop during vaginal birth. Women need to heal physically after a stillbirth just as they do emotionally. They will go through the healing process afterwards just as they would after a normal healthy birth.

Every pregnant woman should undergo thorough antenatal check up with regular follow up so that the high risk cases can be ruled out and appropriate treatment and precautions can be taken so that such incidences of still birth can be prevented.

References

[1]. The vast majority of stillbirths worldwide (98%) happen in low and middle-income countries, where medical care can be of low quality or unavailable. Reliable estimates calculate that yearly about 2.6 million stillbirths occur worldwide during the third trimester.[6] *Robinson, GE (January 2014). "Pregnancy loss.". Best practice & research. Clinical obstetrics & gynaecology. 28 (1): 169–78.* doi:10.1016/j.bpobgyn.2013.08.012.PMID 24047642.

[2]. Jump up^ *Nguyen RH, Wilcox AJ (December 2005).* "Terms in reproductive and perinatal epidemiology: 2. Perinatal terms". *J Epidemiol Community Health. 59 (12): 1019–21.*doi:10.1136/jech.2004.023465. PMC 1732966. PMID 16286486. *There is probably no health outcome with a greater number of conflicting, authoritative, legally mandated definitions. The basic WHO definition of fetal death is the intrauterine death of any conceptus at any time during pregnancy. However, for practical purposes, legal definitions usually require recorded fetal deaths to attain some gestational age (16, 20, 22, 24, or 28 weeks) or birth weight (350, 400, 500, or 1000 g). In the US states, there are eight different definitions by combinations of gestational age and weight, and at least as many in Europe.*

[3]. Jump up^ "Stillbirths". *World Health Organization*. Retrieved 2016-09-29.

[4]. Jump up^ *Collins JH (February 2002). "Umbilical cord accidents: human studies". Semin. Perinatol.26 (1): 79–82.* doi:10.1053/sper.2002.29860. PMID 11876571.

[5]. Jump up^ Cacciatore, J. (2007). A phenomenological exploration of stillbirth and the effects of ritualization on maternal anxiety and depression, University of Nebraska-Lincoln Press, Digital Commons ; Froen, J.F. (2005).