Original Article

Obstetric complications in pregnancies with fetal anomalies incompatible with neonatal survival*

Complicações obstétricas em gestações com feto portador de anomalia incompatível com a sobrevida neonatal

Complicaciones obstétricas en gestaciones con feto portador de anomalía incompatible con la sobrevivencia neonatal

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ABSTRACT

Objective: To describe the most common obstetric complications encountered during periods of pregnancy, childbirth and puerperium, in pregnancies with fetuses that presented anomalies incompatible with life. **Methods:** This is a descriptive study, which assessed 78 medical charts of patients in the Prenatal Fetal Medicine Division of the Federal University of São Paulo; the women gave birth at the same institution, between 2000 and 2006. **Results:** The major obstetric complications identified were: variation in the volume of amniotic fluid (68%), miscarriage, pre-term labor and prolonged pregnancy were present in 6.4%, 55.1% and 3.8% of pregnancies, respectively; intra-uterine fetal death, 17.9%, abruptio placenta occurred in 6.4% and hysterectomy in 2.6%. **Conclusion:** These results suggest that fetus with severe anomalies presented an increase of the risk for pregnancies, which demonstrates the need for expert evaluation in each case.

Descriptors: Pregnancy complications; Pregnancy, high-risk; Congenital abnormalities; Genetic counseling

RESUMO

Objetivo: Descrever as complicações obstétricas mais comuns encontradas nos períodos gestacional, parto e puerpério imediato de gestantes com fetos portadores de anomalias incompatíveis com a vida. **Métodos:** Estudo descritivo, onde avaliou-se 78 prontuários de pacientes atendidas no pré-natal da Disciplina de Medicina Fetal da Universidade Federal de São Paulo que tiveram partos nessa mesma instituição, entre 2000 e 2006. **Resultados:** As principais complicações obstétricas identificadas foram:variação do volume de líquido amniótico em 68%; abortamento, parto pré-termo e a gravidez prolongada estiveram presentes em 6,4%, 55,1% e 3,8% das gestações, respectivamente; óbito fetal intra-uterino em 17,9%; descolamento prematuro da placenta ocorreu em 6,4% e histerectomia em 2,6%. **Conclusão:** Estes resultados sugerem aumento de risco materno em gestações com fetos portadores de anomalias graves, fato que demonstra necessidade de avaliação especializada caso a caso.

Descritores: Complicações na gravidez; Gravidez de alto risco; Anomalias congênitas; Aconselhamento genético

RESUMEN

Objetivo: Describir las complicaciones obstétricas más comunes encontradas en los períodos de gestación, parto y puerperio inmediato de embarazadas con fetos portadores de anomalías incompatibles con la vida. **Métodos:** Se trata de un estudio descriptivo, que evaluó 78 fichas médicas de pacientes atendidos en el prenatal de la Disciplina de Medicina Fetal de la Universidad Federal de Sao Paulo que tuvieron partos en esa misma institución, entre 2000 y 2006. **Resultados:** Las principales complicaciones obstétricas identificadas fueron: variación del volumen de líquido amniótico en 68%; abortamiento, parto pre-término y embarazo prolongado estuvieron presentes en 6,4%, 55,1% y 3,8% de las gestaciones, respectivamente; muerte fetal intra-uterina en 17,9%; desprendimiento prematuro de la placenta ocurrió en 6,4% e histerectomía en 2,6%. **Conclusión:** Éstos resultados sugieren un aumento del riesgo materno en gestaciones con fetos portadores de anomalías graves, hecho que demuestra la necesidad de evaluar, de forma especializada, caso a caso.

Descriptores: Complicaciones del embarazo; Embarazo de alto riesgo; Anomalías congénitas; Asesoramiento genético

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INTRODUCTION

According to the bulletin of the World Health Organization, congenital malformations are now the third leading cause of infant mortality, accounting for 12.7% of early neonatal mortality[1]. The impact of mortality by birth defects in Brazil has increased progressively from the fifth to the second cause of deaths in less than a year between 1980 and 2006[2-3].

Congenital anomalies incompatible with life are those in which the fetus does not survive after birth. Normaly we use the designation as a nonviable fetus, and anencephaly is an example of such an anomaly. This is the most common and lethal form of defect in neural tube closure. The incidence of anencephaly in the United States is approximately 1 / 1000 births[4]. In Brazil it is very variable. Studies monitoring the Latin American Collaborative Study of Congenital Malformations have found a prevalence of 0.68 to 7.3 per thousand births[5-6].

The Fetal Medicine, known as an integral part of obstetrics, came up with the purpose of ensuring fetal health through early diagnosis of diseases as well as offering any possibility of intra uterus treatment. The Fetal Medicine professionals perform their work by using a series of techniques for prenatal diagnosis and evaluation of fetal well being, and on many occasions offer therapeutic options against the diagnosis of malformation. However, they are also faced with severe illness incompatible with neonatal survival. On this occasion, several questions arise regarding the approach to be adopted. How to counsel pregnant women about the risks of maintaining or not the pregnancy[1]?

The laws of developed Western countries such as Europe and North America, allow the interruption of pregnancy when the fetus has an anomaly incompatible with life. However, in Brazil, this procedure is not allowed by the Brazilian Penal Code[2]. From this legal standpoint, an abortion is the interruption of pregnancy with fetal death, regardless of the pregnancy stage. Also according to the law, abortion is not punishable when it is necessary to preserve the mother's life or being the pregnancy a result from rape[7]. Because there is no specific legislation on termination of pregnancy in cases of lethal fetal malformation there is a need for judicial permission in each case. However, the decision to terminate the pregnancy or not is the responsibility of the couple, and there are many factors affecting this decision.

In the study, which evaluated the care of pregnant women with an anencephalic fetus, it was verified that the reasons for the choice of non-termination of pregnancy at diagnosis ranged from disbelief to the need for the mother to bury her son. Among other factors there is also hope that the fetal prognosis change and belief that the mother should not interfere in the time of fetal life[8].

It is in this context that nursing care is related with the responsibility of advising the couple. The team's pre-natal care must be prepared to monitor both physical and psychological states of these pregnant women, and the experience with the care of these couples in the Department of Fetal Medicine at the Federal University of São Paulo (UNIFESP) demonstrates a clear need for a multi-professional and interdisciplinary team working together. In this service, it is clear the role of the nurse as an educator, performing genetic counseling consultation, which aims to ensure the couple to acquire basic technical knowledge that can be used as a basis for making a decision[1].

When working with couples that are generating unviable fetuses it was observed that it is no longer enough to seek alternatives for intervention, whether for maintenance or termination of pregnancy, but rather inform about the possible risks that each option can cause to the maternal health. As for the maintenance of pregnancy status as related to the possible emergence of obstetric complications, there are few data in the literature. In attempting to answer this question and seek greater accuracy in the information provided to these families, the nursing staff of this Centre has proposed a study aiming to describe the most common obstetric complications encountered during periods of pregnancy, childbirth and postpartum in women with fetuses with anomalies incompatible with life.

Complications in pregnancy with unviable fetus may be originated as a result of several factors:

- Fetal morphological abnormalities that lead to change in the production of amniotic fluid, leading to oligohydramnios or polyhydramnios. The oligohydramnios in the first and second trimester was associated with an increased frequency of abnormalities of the urinary system, which prevents either the production or disposal of diuresis. On the other hand the polyhydramnios is associated with abnormalities that prevent swallowing of the liquid as anencephaly, or upper digestive tract atresia. This change in amniotic fluid offers greater maternal risk, as there is a greater chance of developing hypertensive disorders of pregnancy, renal and cardiac insuficiency, respiratory distress, placental abruption, premature rupture of membranes, infection, premature labor and even abortion by the need for invasive diagnostic and therapeutic procedures such as amniocentesis or amniodrenagem, for example[9-10].

- Anomalies of the membranes, such as placental abruption and placental retention of fragments, lead to major bleeding postpartum and in rare cases lead to hysterectomy, in order to stop blood loss. The premature ruptured membranes figure as an important cause of puerperal infection[9-10].

- Problems of delivery such as lacerations and dystocia

of course, due to anomalous presentations and/ or cephalopelvic disproportion, which may lead to rupture cervical, vaginal or vulvoperineal during the passage of a fetus through the birth canal, causing bleeding[9-10].

METHODS

This is a cross sectional study. Data sources were medical records of pregnant women enrolled in prenatal care in the Department of Fetal Medicine, UNIFESP, from January 2000 to December 2006.

Between 2000 and 2006, 2563 pregnant women were enrolled in the service, among which a total of 243 women were diagnosed with fetal inviability. However, adjusting the research design 165 women were excluded, of whom 80 opted for pregnancy termination and the other 85 did not carry on prenatal or delivery was performed at another hospital. The study population was composed, therefore, of 78 pregnant women.

The population met the following inclusion criteria: a single fetus, diagnosis of lethal fetal malformation, option for non-termination of pregnancy and childbirth in the realization of the Hospital.

This study has evaluated the following variables:

- Sociodemographic data: age, marital status, religion and education;
- Reproductive: parity, number of abortions, personal and family history of congenital abnormalities and chemical exposure during pregnancy;
- Related to fetal diagnose: gestational age at diagnosis of fetal inviability, gestational age of arrival in the service of prenatal care, and type of malformation;
- Referring to the course of pregnancy: gestational age at delivery, mode of delivery in the current pregnancy, duration of hospitalization for the resolution of delivery and obstetric complications during pregnancy, childbirth and postpartum (considered postpartum period up to two hours after fetal expulsion)[9].

For statistical analysis spreadsheet calculation MICROSOFT® Office Excel, Windows XP Professional/ 2003 was used. This study was approved by the Ethics in Research Committee of UNIFESP, Protocol n. 0598/06.

RESULTS

The age of the study population ranged between 15 and 50 years, most predominantly a young person under 25 years (55.1%), as observed in Figure 1. About 81% were born in the state of Sao Paulo, and when it comes to religion, the Catholic and Evangelical totaled 83.3%. About 75% of pregnant women report having a stable relationship. As for education over half (54.5%) did not complete high school.

With regard to reproductive history, 39.7% of pregnant women was in the first pregnancy. It highlighted to a rate of 38.2% with history of at least one abortion and 51% incidence of previous cesarean birth. In 4.0% of pregnant women it was observed prior child with a congenital anomaly. If we add the personal background to the family this index comes up to 11.5%.

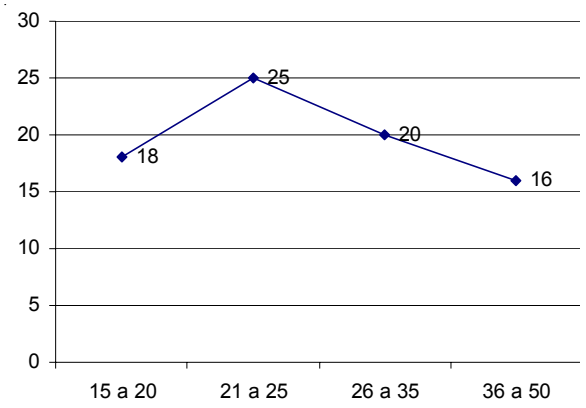

Figure 1 – Women with pregnancy of non viable fetuses, according to maternal age. São Paulo, 2008.

It was observed that 47.4% of pregnant women were exposed to chemicals such as drugs (21.8%) and tobacco (20.5%), followed by illicit drugs and alcohol, respectively, 3.8% and 1.3 %.

The discovery of a nonviable fetus was diagnosed in the first trimester (<13 wk) in only 17% of pregnancies. That number increased to 70% in the second trimester (14-27 wk) and in the last trimester (> 28 wk), reached 13%. However, it was observed that after fetal diagnosis,only 1% of the cases arrived at the specialized service in the first quarter, 67% in the second quarter and, 32% of them in the third quarter.

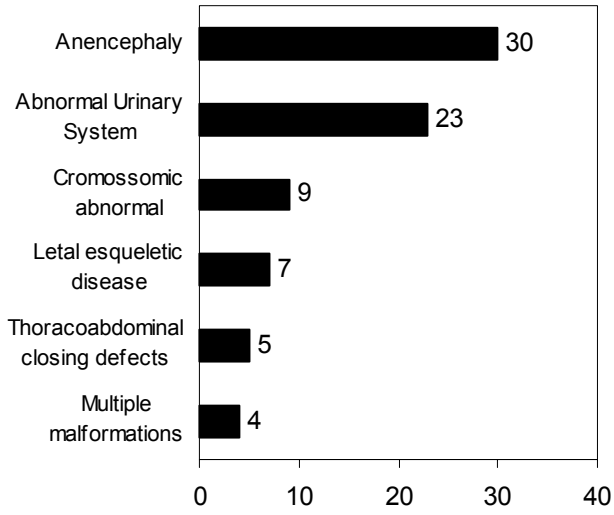

Figure 2 - Women with pregnancy of non viable fetuses, according to fetal malformations. São Paulo, 2008.

The types of fetal malformations diagnosed justifying

the impossibility can be seen in Figure 2.

Aberrations include trisomies 13 and 18 and thoracoabdominal closing defects such as Cantrel Pentalogy and Body Stalk.

Regarding the length of gestation, more than half of the population (55.1%) was preterm birth, and 3.8% pregnancy was prolonged. Further 6.4% of pregnancies were spontaneously aborted.

The pregnancy resolution by cesarian occurred in 25% of the population, and for every two cesarian was performed in a state of emergency/ urgency, and the indications ranged from placenta previa, placenta accreta and dystocia commuting by anomalous presentation. The duration of hospitalization for pregnancy resolution in 63% of cases was three or more days.

Obstetric complications observed during periods of pregnancy, childbirth and postpartum are described in Table 1.

Table 1 - Women with pregnancy of non viable fetuses, according to obstetric complications during periods of pregnancy, childbirth and postpartum. São Paulo, 2008.

Obstectrical Complications cycle*	n(78)	%
Oligohidramnios	35	44.9
Polyhydramnios	18	23.1
Retained placental fragments	28	35.9
Fetal death	14	17.9
Maternal lacerations	12	15.4
Premature ruptured membranes	11	14.1
Dystocia at childbirth	10	12.8
Hypertensive disorders of pregnancy and/or gestational diabetes	6	7.7
Abruptio placenta	5	6.4
Puerperal blood transfusion	4	5.1
Descompensated chronic desease	4	5.1
Histerectomy	2	2.6
Dystocia of the umbilical cord	1	1.3
Uterine placental retention	1	1.3
No complications	1	1.3

* The great majority of the complications did not occur alone.

DISCUSSION

This research identified a predominantly young population, which was not significant in other studies[11-13].

Regarding the duration of pregnancy, preterm birth found in other studies ranged from 50% to 53% meeting the results of this survey, which shows a 55% incidence of this type of delivery. The postterm pregnancy had a lower incidence (3.8%) than that observed in other studies, whose numbers ranged between 10% and 17%[11-13]. Our study also observed the occurrence of 6.4% of spontaneous pregnancy loss, which was not found or not observed in other studies. It is worth mentioning here that the data in the literature, in its majority, were related to anencephalic fetus, which may explain this difference in length of gestation.

As for the variation of amniotic fluid it was observed in studies with anencephalic fetus. The prevalence of polyhydramnios, with a wide variation ranging from 27% to 90%. If we look alone, in our study this was present in 50% of cases[11-13]. Authors, in their studies found an association between polyhydramnios and congenital anomalies in 81.1% of pregnancies analyzed[14].

In another study it was observed that the chance of oligohydramnios in the pregnancy is five times higher when there are congenital anomalies[15].

As for the fetal death, data in the literature range from 7% to 50% of intra uterine fetal death in anencephaly[11-13]. In our study, among the cases of anencephaly this figure was over 23%, and overall, counting all the anomalies, 20%.

Another fact observed in the study[11] with anencephalic fetus was the occurrence of 46% of abnormal fetal presentation. It was found that the anomalous presentation is associated frequently with congenital abnormalities and in 29.2% of the cases resulted in cesarean delivery of emergency and elective caesarean section in 23.3%[16]. In this study, we found 12.8% presenting inadequate fetal position, and the resolution of pregnancy through cesarean represented 25% of cases.

The premature rupture of membranes was present in 14.1% of cases. Authors, despite their claim that anencephaly increases by seven times the chance of premature rupture of membranes, had no observations in the five-year study with evaluated 30 pregnancies with anencephalic fetus and there were no cases of abruptio placenta, placenta previa or any dystocia[11]. These findings go against this study, which showed five cases of abruptio placenta, and three were anencephalic. There were also reports of path dystocia (8%) and lacerations (15%).

In this research two cases were found where there was need to perform hysterectomy: one due to abruptio placenta, and another as a result of placental accretion. In these two cases, patients received blood transfusion.

We highlight the occurrence of 38% of cases with description of retention of placental fragments, a fact not mentioned in study centers, with prevalence higher than expected.

FINAL CONSIDERATIONS

Research did not aim to outline a profile of the pregnant woman who chooses to maintain pregnancy in this population emphasizing a young woman with a stable marriage, low socioeconomic status and in their first pregnancy. This suggests greater attention to implementation of care for women of childbearing age in primary care network, aimed at promoting and protecting health

Another interesting finding, which became visible, was the late arrival in specialized service after detection of fetal anomalies. Given the technology we have, this delay has consequences for the choice of better diagnosis and therapy that may be offered to pregnant women, and contribute to the increased risks to maternal health. In addition to this, it was noted that about one third of pregnant women who come to this service discontinues the service and / or failed delivery in this service, which demonstrates the need to perform a host specialist, also providing information on risks we run in the discontinuity of care from prenatal high risk and the need to invest in training the team while working in both the prenatal and maternity wards in order to provide quality care to this population.

The subject is very complex and the team of prenatal should always act in a multi-professional and interdisciplinary way, prevent so as to the pregnant woman from being viewed as decoupled and of loosing their autonomy. The team should always use a homogenous language, aiming to provide reassurance to couples seeking specialized care.

Finally, this research pointed to the possibility of harm to maternal health in pregnancies with severe fetal abnormalities, an observation that suggests the need for further studies in order to approach this evidence more deeply.

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