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Kliniğimizdeki İntrauterin Fetal Ölümlerin Analizi

Analysis of Stillbirths in our clinic

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ÖZ

GİRİŞ ve AMAÇ: *Ölü doğum, gebelerin bakımını iyileştirmeye yönelik çalışma ve çabalara rağmen birçok ülkede gebeliğin hala çok yaygın görülen olumsuz bir sonucudur. Dünya üzerinde 2,6 milyon üçüncü trimester ölü doğum meydana gelmekte olup bunların %98'i düşük ve orta gelirli ülkelerden bildirilmektedir.Gebelik sonuçları sosyoekonomik durumlarla yakından ilişkilidir. Bu çalışmamızda kliniğimizdeki 2016-2017 yılları arasındaki ölü doğumları analiz etmeyi amaçladık.*

YÖNTEM ve GEREÇLER: *Üçüncü trimesterde 54 ölü doğumun klinik verileri, Ocak 2016 – Temmuz 2017 tarihleri arasında Kocaeli ili Derince ilçesinde Sağlık Bilimleri Üniversitesi Derince Eğitim ve Araştırma Hastanesi'nde insidansı, maternal profili, nedenleri, doğum şekli dahil olmak üzere retrospektif incelendi.*

BULGULAR: *Sağlık Bilimleri Üniversitesi Derince Eğitim ve Araştırma Hastanesi'nde Ocak 2016 ve Temmuz 2017 tarihleri arasında ölü doğum insidansı %1,17 (54/4588)'dir. Ölü doğum insidansı Türk gebelerde %1,12 (47/4195), Suriyeli gebelerde %1,78 (7/393)'dir. Yaşları 17 ile 47 arasında değişmekte olup, ortalama 29,94±7,29 yıldır. Olguların %53,7'si (n=29) normal doğum, %46,3'ü (n=25) sezaryen doğum yapmıştır. Gebelik haftaları incelendiğinde; gestasyonel yaşı 36 haftadan küçük olan olgu oranı %70,4 (n=38), gestasyonel yaşı 37 hafta ve daha uzun süren olgu oranı %29,6 (n=16) olarak saptanmıştır.*

TARTIŞMA ve SONUÇ: *Ölü doğum oranı gebelik ve doğum sırasındaki bakım kalitesinin bir göstergesidir. Doğumla ilgili komplikasyonların önlenmesi, ölü doğumların görülme sıklığının azaltılması için riskli gebeliklerin doğum öncesi bakımının iyi olması ve üçüncü trimesterde yakın izlem oldukça önemlidir. Antenatal fetal monitörizasyonla gebeliğin sonlanması için zamanında ve doğru bir yönetim, ölü doğum vakalarını azaltmada yardımcı olabilir. Ölü doğum oranı ileri yaş gebeliklerde daha yüksektir, bu nedenle ileri yaş gebeliklerin yönetimini güçlendirmek gerekir.*

Anahtar Kelimeler: *Ölü doğum, ölü doğum analiz, göçmen ölü doğum, yerleşik ölü doğum*

ABSTRACT

OBJECTİVE: *In this study, we aimed to analyse the stillbirth cases that occurred at our clinic.*

METHODS: *The clinical data of 54 stillbirths that occurred during the third trimester at the Kocaeli Derince Education and Research Hospital of the Health Sciences University in Turkey, between January 2016 and July 2017, was retrospectively reviewed, including the incidence, maternal profiles, causes and delivery routes.*

RESULTS: *The stillbirth incidence was 1.17% (54/4,588), with a 1.12% (47/4,195) incidence in the Turkish pregnancies and 1.78% (7/393) incidence in the Syrian pregnancies. The patients' ages ranged from 17 to 47 years old (average=29.94±7.29 years). Of the cases, 53.7% (n=29) had normal deliveries and 46.3% (n=5) had caesarean deliveries. The highest aetiology rate was 59.2% for the unknown aetiologies. Placental anomalies made up the second highest frequency (16.6%), with foetal anomalies being third (11.1%). With regard to the comorbid disease incidence in the mothers, 66.6% of the cases were not diagnosed with congenital anomalies, and 18.5% were diagnosed with preeclampsia.*

DISCUSSION AND CONCLUSION: *The stillbirth rate is an indication of the quality of care during pregnancy and delivery. Proper pregnancy care for high risk pregnancies can prevent birth complications and reduce the stillbirth incidence, with close follow-up during the third trimester being very important. The stillbirth rate is higher in advanced age pregnancies, so it is necessary manage these properly.*

Keywords: *Stillbirth, stillbirth analysis, immigrant stillbirth, resident stillbirth*

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INTRODUCTION

Intrauterine foetal loss is defined as a foetal loss occurring during the 20th week or at a later gestational age (1). A stillbirth remains a very common negative consequence of pregnancy in many countries, despite the efforts being made to improve the care of pregnant women. The number of stillbirths in the world is too high to be acceptable, with 2.6 to 2.7 million reported per year (2). Worldwide, 2.6 million third trimester stillbirths occur, of which 98% are reported from low and middle-income countries (3). Intrauterine foetal losses are often classified as being due to maternal, foetal and placental factors. The maternal causes include obesity, socioeconomic factors, advanced maternal age, race and smoking. The other risk factors are advanced gestational age, multiple pregnancies and maternal diseases. The placental causes (e.g., ablation, retroplacental hematoma, infarct and thrombus) are responsible for 50.4% of stillbirths, while the unexplained causes are responsible for 20% (4). The foetal causes include foetal congenital anomalies, foetal hypoxia, foetal trauma, haemolytic diseases and nonimmune hydrops foetalis (5).

Obstetric risk assessment methodologies determine those pregnant women at high risk, particularly those who are migrants, due to poor nutritional status, psychosocial factors, communicable disease prevalence and lack of access to health services. Understanding the causes of stillbirths is a critical precautionary step to preventing them from happening. Therefore, for this research, we aimed to retrospectively analyse the stillbirth cases that occurred at our clinic.

METHODS

This study was conducted by screening retrospective hospital records with approval from the Education Planning Board of the Kocaeli Derince Education and Research Hospital of the Health Sciences University in Turkey. Between January 2016 and July 2017, in the obstetrics and gynaecology clinic, 54 cases of stillbirths after the 20th gestational week were investigated with regard to the incidence, demographic data, reasons, delivery types and caesarean section deliveries. Those cases with missing records were not included in the study. The 2007 Number Cruncher Statistical System (NCSS Statistical Software, Kaysville, UT, USA) was used for the statistical analysis. Descriptive statistical methods (mean, standard deviation, median, frequency, odds, minimum and maximum) were used when the study data was evaluated.

RESULTS

The stillbirth incidence was 1.17% (54/4,588). It was 1.12% (47/4,195) in the Turkish pregnancies and 1.78% (7/393) in the Syrian pregnancies, and 87.0% (n=47) of the Turkish mothers and 13.0% (n=7) of the mothers who had stillbirths migrated. Their ages ranged from 17 to 47 years old, with an average age of 29.94±7.29 years. The pregnancy numbers ranged from 1 to 6, with a mean of 2.35±1.46 pregnancies. The primigravid ratio was 42.6% (n=23), the 2 pregnancy rate was 13.0% (n=7), the 3 pregnancy rate was 24.0% (n=13) and the 4 and over pregnancy rate was 20.4% (n=11). The prenatal haemoglobin value mean was 11.904±2.00, the haematocrit value mean was 35.32±5.80 and the mean corpuscular volume (MCV) mean was 85.46±7.49 **(Table 1).**

Table 1. Distribution of the mother and baby features

Nationality, n (%)	**Turkish**	**47 (87.0)**
	Syrian	7 (13.0)
Age	*Min-Max (Median)*	17-47 (30)
	Avg ± Ss	29.94±7.29
Haemoglobin (g/dL)	*Avg ± Ss*	11.904±2.00
Haematocrit (%)	*Avg ± Ss*	35.32±5.80
Mean corpuscular volume (fL)	*Avg ± Ss*	85.46±7.49
Number of pregnancies	*Min-Max (Median)*	1-6 (2)
	Avg ± Ss	2.35±1.46
	1 pregnancy	23 (42.6)
	2 pregnancies	7 (13.0)
	3 pregnancies	13 (24.0)
	≥4 pregnancies	11(20.4)
Type of birth, n (%)	Normal birth	29 (53.7)
	Caesarean birth	25 (46.3)
Cause of caesarean birth, n (%) (n=20)	Placental abruption	4 (.0)
	Cephalopelvic disproportion	1 (5.0)
	Incomplete labour Multiple pregnancy	3 (15.0) 2 (10.0)
	Presentation anomalies	2 (10.0)
	Previous uterine surgery	8 (40.0)
Nulli/Multiparous births, n (%)	Nulliparous	38 (70.4)
	Multiparous	16 (29.6)
Gestational week, n (%)	2nd Trimester (13–27 weeks)	13 (24.1)
	3rd Trimester (28–40 weeks)	41 (75.9)
Birth weight (g)	*Min-Max (Median)*	370-3,660 (1640)
	Avg ± Ss	1,745.74±943.01

There were 53.7% (n=29) normal births and 46.3% (n=25) caesarean deliveries. Twenty patients underwent caesarean sections for the following reasons: placental abruptions in 20.0% (n=4), head-pelvis incompatibilities in 5.0% (n=2), multiple pregnancies in 10.0% (n=2), other presentation

anomalies, untrained travay in 15% (n=3) and uterine surgery indications in 40.0% (n=8). The nulliparous delivery rate was 70.4% (n=38), and the multiparous delivery rate was 29.6% (n=16). When the pregnancy weeks were examined, in 70.4% (n=38) of the cases, the gestational age was 37 weeks, and in 29.6% (n=16) of the cases, the gestational age was 37 weeks or longer. The weights of the babies ranged from 370–3,660 g, with an average of 1,745.74±943.01 g (Table 1).

The stillbirth aetiology rates were as follows: unknown in 59.2% (n=32) (the highest rate), dislocated placentas in 16.6% (n=9), foetal anomalies in 11.1% (n=6), intrauterine growth retardation in 3.7% (n=2), anhydramnios in 3.7% (n=2), bilateral transfusion syndrome between twins in 1.8% (n=1), nonimmune hydrops foetalis in 1.8% (n=1) and diabetic ketoacidosis-related mortality in 1.8% (n=1) (Table 2). The comorbid disease rates were as follows: 66.6% (n=36) had no additional disease, 18.5% (n=10) had preeclampsia, 5.5% (n=3) had gestational diabetes mellitus, 3.7% (n=2) had hypertension, 1.8% (n=1) had hyperthyroidism, 1.8% (n=1) had epilepsy and 1.8% (n=1) had celiac disease.

Table 2. Stillbirth aetiologies and the distribution of the additional diseases seen in the mother

Aetiology	**N:54 (%)**	**Maternal accompanying disease**	**N:54 (%)**
Unknown cause	32 (59.2%)	No additional disease	36 (66.6%)
Placental abruption	9 (16.6%)	Preeclampsia	10 (18.5%)
Foetal anomaly	6 (11.1%)	Gestational diabetes mellitus	3 (5.5%)
Intrauterine growth restriction	2 (3.7%)	Hypertension	2 (3.7%)
Anhydramnios	2 (3.7%)	Hyperthyroidism	1 (1.8%)
Twin to twin transfusion syndrome	1 (1.8%)	Epilepsy	1 (1.8%)
Nonimmune hydrops foetalis	1 (1.8%)	Celiac disease	1 (1.8%)
Diabetic ketoacidosis	1 (1.8%)		

Of the patients, 18.5% (n=10) were advanced age mothers (≥38 years) and 5.5% (n=3) were adolescents (≤18 years), according to the age distribution of the anchors. When considering the stillbirth aetiology rates in the advanced age mothers, 50% (n=53) had dislocated placentas (5 of them also had concomitant preeclampsia), 40% (n=2) had anencephaly, 40% (n=2) had preeclampsia only and 10% had essential hypertension. In our cases, the adolescent pregnancy rate was 3.7% (n=2). Diabetic ketoacidosis was detected in one of these cases, and celiac disease was detected in the other case.

DISCUSSION

The pregnancy outcomes are closely related to the parents' socioeconomic status (6-8). In this study, we aimed to analyse the stillbirths in our clinic that occurred between 2016 and 2017. The World Health Organization has established two criteria for the definition of a stillbirth: 1,000 g or above or a gestational age of 28 weeks or older (9). However, the birth weight and gestational age do not give equivalent results. Therefore, this definition should be based on a single parameter, and the gestational age is a better indicator of life than the birth weight. For this reason, we used the gestational age as a basis for the definition (10). Moreover, the stillbirth rate is an indication of the quality of care at the time of gestation and delivery (11). The proper care for high risk pregnancies can help prevent birth complications, reducing the incidence of stillbirths, and close follow-up during the third trimester is very important. One of our major deficiencies in this study as the fact that our cases did not reach the number of follow-ups recommended during pregnancy.

Several stillbirth risk factors have been reported. The maternal factors include an advanced maternal age, adolescent pregnancy, maternal nutritional status, previous pregnancy loss narratives and pregnancy complications (12). Special attention should be paid to the maternal factors, especially infection and hypertension. In the meta-analysis performed by Flenady et al., the stillbirth aetiology rates included placental anomalies in 29%, maternal causes in 7%, congenital anomalies in 6% and unknown causes in 30% (13). Helgadöttir and colleagues found a placental anomaly rate of 22% and 31% unknown cases in their study (14). In our study, placental anomalies were found in 18.4% (placental abruption and bilateral transfusion syndrome between twins), maternal causes were found in 18.8% and congenital anomalies were found in 11.1%. Older aged women, no formal

education, no antenatal care, primiparous women and multiparous women (≥4 previous pregnancies) have greater stillbirth risks (15-16). In our study, the advanced age (≥38 years) rate was 18.5%, while the previous pregnancies ≥4 rate was 20.4%. The stillbirth rate is higher in advanced age pregnancies, so it is necessary to strengthen the management of these cases. Moreover, pregnancy complications, such as placenta previa, gestational diabetes, hypertensive disorders during pregnancy, intrauterine growth restriction and foetal death, are more common in older aged mothers (17-19). In our study, 50% placental abruption, 40% (n=2) anencephaly, 40% preeclampsia and 10% essential hypertension were detected in the stillbirth aetiologies of the advanced age mothers. For this reason, guidance has emerged in both North America and Europe for the management of pregnancies at advanced ages (20-21).

In this study, we retrospectively documented the stillbirths in our clinic; however, most of the pregnancies were not referred to any health care facility for the third trimester examination. Access to health services is of particular importance during that time. In addition, access to health care organizations for Syrian women living in Turkey could be made easier by the government and the Ministry of Health, because living as a refugee can have adverse effects on the pregnancy outcome. This suggests that there is a significant difference between the obstetrical outcomes of Turkish and Syrian women who are pregnant. A good health care system that provides prenatal care and timely emergency obstetric care can prevent a significant proportion of stillbirths on similar terms. Good prenatal care may improve compliance and help to prevent complications during pregnancy in a timely manner.

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