

Oligohydramnios in 3rd trimester; risk factors, maternal and perinatal outcome/Sudan

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SUMMARY

Background: Early detection of oligohydramnios and its management may help in reduction of perinatal morbidity and mortality one side and decreased caesarean deliveries on the other side.

Objectives: To study risk factors of oligohydramnios during pregnancy in 3rd trimester and its effects on maternal and perinatal outcome.

Methods: A prospective case control study conducted at Ibrahim Malik Teaching Hospital during the period from April 2017 to December 2017. The study sample was 247 pregnant women diagnosed with oligohydramnios as case and 247 healthy pregnancies as control.

Results: The commonly reported risk factors among 247 pregnant women with oligohydramnios at 3rd trimester were; idiopathic disorder 113 (45.70%), and congenital anomalies 36 (14.60%), preeclampsia and hypertension 82 (13.8%), diabetes mellitus 13(5.3%) and antiphospholipid antibody syndrome 3 (1.2%). operative delivery was very high in the case group; 76 versus 34 OR 2.7843, cesarean sections were due to pathological CTG 66 versus 26 OR 2.0308. Most of the babies in the case group admitted to NICU; 181 versus 17 OR 37. 1034. The indications of admission were due to; observation, congenital anomalies, RDS, IUGR, Meconium aspiration and HIE (Hypoxic Ischemic Encephalopathy).

Conclusion: The indications for cesarean section were pathological CTG, fetal distress and previous scar with diabetes mellitus.

Key words: Oligohydramnios, Pregnancy, Perinatal, Africa, Sudan, Dongola

INTRODUCTION

Oligohydramnios can develop in any trimester, although it is more common in third trimester [1]. It is associated with an increased risk of operative delivery for fetal distress, low Apgar score also; high perinatal morbidity and mortality are main impact [2]. Oligohydramnios is defined as deepest pocket or maximum vertical pocket of less than 2 cm or Amniotic Fluid Index (AFI) of less than 5 [3]. The incidence 2.4% between 36-40 weeks gestation [4]. Oligohydramnios frequently accompanies fetal growth restriction due to uteroplacental insufficiency, congenital anomalies and placental abruption also play a role, however many cases are idiopathic [5]. Only one small, randomized trial evaluated outcomes with intervention versus expectant management. Conclude that found an increased risk of operative delivery, there is no evidence addressed that perinatal outcome with conservative management and delivery of pregnancy complicated with oligohydramnios at term, even in the absence of maternal illness and appropriately grown fetuses is improved [6]. The aim of our study is to determine risk factors, fetal and maternal outcome in community in Sudan/Khartoum.

METHODOLOGY

This is prospective case control study, conducted in Ibrahim Malik hospital/Sudan. All pregnant women in 3rd trimester diagnosed as oligohydramnios by U/S and accepted to participate in the study, the total number is 247 case group and 274 control group, healthy pregnancy, normal amount of liqueur and without any medical diseases. Cases of PROM excluded from study. Data collected by detailed and structured questionnaire. Pregnant women completed pre-coded questionnaires after formal consent. The questionnaires included: Socio demographical data, Obstetrical history, Current labour data; it included data about phase of admission to labour room, membrane's condition, amniotic fluid condition, feeling of fetal movement, A comprehensive sonographic evaluation with fetal biometry is performed, as well as a search for fetal anomalies, markers suggestive of aneuploidy, fetal growth restriction, or placental abnormalities, CTG: Laboratory investigations: Partogram: Neonatal assessment record: Apgar score at the first and fifth minute, neonatal weight, (NICU), neonatal complications, deformities or mortality.

Data was analysed by computer using Statistical Package for Social Science (SPSS) software and the results expressed in tables.

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Variable	Idiopathic	HTN	diabetes	Anti-phospholipid	anomalies	total
Number	113	82	13	3	36	247
percentage	45.70%	33.20%	5.30%	1.20%	14.60%	100%

Mode of delivery	VD	IOL	C/S
Case	111	60	76
Control	213	0	34
OR	Odds ratio 0.1303	Odds ratio 7.6043	Odds ratio 2.7843

Indications of caesarean section	Pathological CTG	Previous Scar	Total
case	66	10	76
control	26	8	34
OR	Odds ratio 2.0308		Odds ratio 2.7843

Indication	Observation	Meconium	RDS	(HIE)	IUGR	anomalies	Total
Case	51	25	30	12	27	36	181
Control	12	0	4	0	0	1	17
OR							Odds ratio 37.1034

Ethical considerations

Ethical approval obtained from Sudan Medical Specialization Board, Council of Obstetrics and Gynecology, written consent was taken from administrator and written consent was taken from all participants.

RESULTS

The reported risk factors among 247 pregnant women with oligohydramnios at 3rd trimester were; idiopathic disorder 113 (45.70%), and congenital anomalies 36 (14.60%), preeclampsia and hypertension 82 (13.8%), diabetes mellitus 13 (5.3%) and antiphospholipid antibody syndrome 3 (1.2%) (Table 1).

The rate of operative delivery illustrated in (Table 2), was very high in the case group; 76 versus 34 OR 2.7843, vaginal delivery 111 and induction 60, the corresponding figures in the control group 213 vaginal delivery and no induction.

The indications for cesarean section (n=76) in the case group; were pathological CTG 66 versus 26 OR 2.0308 and previous scar 10 versus eight, which shown in (Table 3).

The babies admitted to NICU in the case group 181 versus 17 OR 37. 1034. The indications of admission were due to; observation 51, congenital anomalies 36, RDS 30, IUGR 27, Meconium aspiration 25 and HIE 12 while in the control group were due to; observation 12, RDS 4 and congenital anomalies 1 (Table 4).

Since the odd ratio is more than one; then the mode of delivery is positively related to the effect of the disease under study.

Since the odd ratio is more than one; then the approach C/S is positively affected by the pathology and previous scar.

Since the odd ratio is more than one; then the indication of admission is positively affected by presence of the disease under study.

DISCUSSION

In our study operative delivery was high in the case group OR 2.7843, this is similar to what has concluded in Nepal case-control study (85%) delivered by caesarean section in oligohydramnios group [7].

With regards to risk factors our study showed that the commonest risk factor is idiopathic, and then HTN which is found in India by Moses and Thakre who studied maternal and fetal outcome in third trimester diagnosed with oligohydramnios [8]. However, in our study we found that congenital anomalies are the third common cause, this may be explained by the trend that our ladies show late during pregnancy. In Kenya contradicted results were obtained with Pregnancy Induced Hypertension PIH (27.5%) is the main risk factor [9].

In our study cesarean section due to pathological CTG was high in the case group OR 2.0308, which is similar to what concluded in Indian Cesarean performed in 44% of cases 44% [10].

CONCLUSION

The reported medical disorders in current pregnancy were idiopathic disorder, preeclampsia, hypertension, diabetes mellitus and antiphospholipid antibody syndrome in addition to congenital anomalies.

Cesarean section was reported in 76 (30.8%) of the studied women and induction of labour in 60 (24.3%). The indications for cesarean section were pathological cardiotocography and previous scar with diabetes mellitus. The majority of the babies 181 (73.3%) were admitted to NICU, due to observation, congenital anomalies, RDS, IUGR, Meconium aspiration and HIE. Apgar score less than 7 at 5 minutes was reported in 70 (28.3%) of the babies. The reported fetal deaths were 52 (21.1%).

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