

FREQUENCY AND FETOMATERNAL OUTCOME OF MULTIPLE GESTATIONS IN AYUB TEACHING HOSPITAL ABBOTABAD

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ABSTRACT

Introduction: The Rate Of Multiple Gestations Has Dramatically Risen Over The Past 2 Decades, Due Both To Increasing Maternal Age And To The Widespread Use Of Assisted Reproductive Technologies (Art). With This Increase In Twin Gestations Comes An Increased Risk Of Morbidity To Both Mother And Neonate; One Important Source Of Morbidity Is Caesarean Delivery

Objective: To Determine The Frequency Of Twin, Triplets And Higher Order Gestations In Patients Presenting In Gynae "A" Unit Of Ayub Teaching Hospital Abbottabad. To Determine The Frequency Of Feto-Maternal Outcome In Patients Presenting With Multiple Pregnancy.

Methodology: This Descriptive Cross-Sectional Study Was Conducted In Department Of Obstetrics And Gynaecology, Ayub Teaching Hospital Abbottabad From 16th November 2022 To 16th May 2023. A Total Of 110 Patients Were Observed To Determine The Frequency Of Multiple Pregnancy In Patients Presenting In Gynae "A" Unit Of Ayub Teaching Hospital Abbottabad. Sampling Technique Was Non-Probability Consecutive Sampling.

Results: This Study Was Conducted At Conducted In The Department Of Obstetrics & Gynaecology, Ayub Teaching Hospital, Abbottabad In Which A Total Of 110 Patients Were Observed To Determine The Frequency Of Adverse Outcomes In Multiparous Women With Multiple Gestations The Results Were Analyzed As Mean Age Was 24.44 Years \pm 5.7. Age Wise Distribution. 20-25 Years 45(40.9%) 26- 30 Years 36(32.7%) 31-35 Years 29(26.3%). Gestational Age Was 34 Weeks- 36 Weeks 52(47.3%) 37 Weeks - 38 Weeks 36(32.7%) 39-40weeks 22(20.0%). Distribution Of Feto-Maternal Outcome Among Multiple Gestations Is As Follow: Lscs Was Done In 67(60.9%) Women, Anemia Was Present In 69(62.7%) Women, 23(20.9%) Women Ware Complicated With Pph, Low Apgar Score Of Atleast One Neonate Was Delivered To 48(43.6%) Women, Low Birth

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Weight Neonates Was Delivered To 74(67.3%) Of Women, Neonates Delivered To 61(55.5%) Women Required Nicu Admission And Perinatal Mortality Was (14.5%).

Conclusion: *Our Results Manifested The Austere Guidelines In Maternal And Neonatal Outcomes In Multiple Pregnancies, The Call For Towards Optimizing Management Of Adverse Perinatal Outcomes The Preventive Measures For The Risks Attached To Multiple Pregnancy Including Prematurity Hypertension, Low Birth Weight, And Sga Are Often Out Of Reach By Implication, We Propose That Mother's With Multiple Gestation Seek Higher Degree Of Obstetric Care And Acquiring Band Knowledge On The Significance Of Timely Interventional Action And Developmenta.*

Keywords: *Frequency, Adverse Perinatal Outcomes, Multiparous Women, Twin Gestations*

INTRODUCTION

In the last fifty years, the incidence of multiple gestations has increased, acquiring epidemic dimensions, mainly due to delayed procreation and assisted reproductive technologies (ART). After using ART they have moved from 2% of births to 30-35 percent. [1]

Relative to singleton pregnancies, multiple pregnancies are generally associated with adverse perinatal outcomes, often attributable to increased incidence of LBW neonates and that of preterm birth and its neonatal morbidities and mortality.[2] Nevertheless, for those twins who were able to overcome barriers of multiple pregnancy, there is still the issue of the delivery event. In singleton pregnancy, there are only two routes of delivery; vaginal delivery (VD) and caesarean delivery (CD). However, twin pregnancy is associated with some unique features which are capable of complicating delivery of the second twin in addition to those associated with normal pregnancy: change in lie and presenting part, abruptio placenta following the rapid decompression of the uterus after the delivery of the first twin, prolapsed umbilical cord, changes in cervical dilatation and more. These circumstances may lead to a mixed 模式, where the anterior twin is born through the vaginal route, while the posterior twin is delivered by a CD [3].

Multifetal gestations are commonly recognized to be at higher risk for adverse perinatal outcomes including fetal and infant mortality. Preterm birth is associated with an approximate five-fold increased risk of stillbirth and almost a six-fold increased risk of neonatal death, although this largely can be attributed to complications of prematurity [4].

Multiple gestation pregnancies increase the risk of preterm birth and birth before 32 weeks of gestation; women in such pregnancies are six times more likely to deliver preterm and 13 times more likely to deliver before 32 weeks than women with singleton pregnancies.[5]

Frequency of multiple pregnancy that has been reported by Nikolov A, et al is 3.62%[6]. According to various study done by Sundaram S, et al the observed incidence of preeclampsia was 26%, anemia was 36%, PPRM 12%, operative delivery 54% by CS, NICU admission was 65.6% in multiple gestation and perinatal mortality was 10.5%.[7]

Although multiple gestation is a well-known risk factor for adverse pregnancy outcomes, limited information is available on the burden and outcome of multiple gestation pregnancies in the community setting of developing countries. Hence the specific objectives are as; Establish the prevalence of multiple births, and its perinatal/FGM outcomes amongst our locals.

MATERIAL AND METHODS:

Study design: Cross Sectional Study

Study Setting: Department of Obstetrics & Gynaecology, Ayub Teaching Hospital, Abbottabad.

Duration of study:

16th November 2022 to 16th May 2023.

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Sample size: 110

Sample size is calculated with WHO sample size software, 95% confidence interval, 3.5% margin of error and expected frequency of multiple pregnancy by 3.62%.⁶

Sampling technique: non-probability consecutive sampling

Inclusion Criteria:

- Women age 20-35 years
- Multiple gestations on ultrasound
- Gestational age 34-40 weeks on LMP

Exclusion Criteria:

- Gestational diabetes mellitus (GDM) on medical record
- Hypertensive disorders (including preeclampsia, eclampsia, pregnancy-induced hypertension) on medical record

DATA COLLECTION PROCEDURE:

110 women fulfilling the inclusion criteria from indoor department of Obstetrics & Gynaecology, Ayub Teaching Hospital, Abbottabad were included in the study after permission from ethical committee and research department of CPSP. The reason for participating into the study was explained in detail to the patient and the informed written consent discussing the risks and benefits of the study were provided by the author. Other data name including age, GA and weight were documented.

On admission in the labour room each patient's Ob and Medical details were recorded and general physical examination done including abdominal and pelvic examination. All patients were then given permission to progress for spontaneous labour in any women with prior vaginal delivery. Director protocols indicated that in the event of failure of vaginal birth (prolonged labour > 16 hours, fetal distress), the immediate mode of delivery to be adopted was an open caesarian. Signing for the emergency caesarean section was done by a consultant gynaecologist who was in practice for 3 years since the fellowship. Again caesarean section was performed in those women who have previously undergone caesarean section. Information on AE were gathered for perinatal adverse outcomes as defined at the study's onset. These data were reported by the researcher herself on the particularly structured proforma (Annexure-I).

DATA ANALYSIS:

Data were analyzed with statistical analysis program (ISPSS-version-22). Mean \pm SD were presented for quantitative variables like age, gestational age, low Apgar score, low birth weight. Frequency and percentage were computed for qualitative variables like, NICU admission, mortality, PPH, LSCS, Anemia. Stratification were done with regard to age, gestational age to see their effect on adverse perinatal outcomes. Post stratification chi square test were applied $p \leq 0.05$ were considered statistically significant.

RESULTS

This study was conducted at conducted in the Department of Obstetrics & Gynaecology, Ayub Teaching Hospital, Abbottabad in which a total of 110 patients were observed to determine the frequency of adverse perinatal outcomes in multiparous women with twin gestations the results were analyzed as:

Mean age was 24.44 years with standard deviation \pm 5.7. Age wise Distribution. 20-25 Years 45(40.9%) 26-30 Years 36(32.7%) 31-35 Years 29(26.3%) (As shown in table No2)

Gestational Age was 34 weeks- 36 weeks 52(47.3%) 37 weeks - 38 weeks 36(32.7%) 39-40weeks 22(20.0%) (As shown in table No2)

Distribution of fetomaternal outcome among multiple gestations is as follow: LSCS was done in 67(60.9%) women, anemia was present in 69(62.7%) women, women who were complicated with PPH are 23(20.9%), Low Apgar score of atleast one neonate was delivered to 48(43.6%) women, Low birth weight neonates was

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delivered to 74(67.3%) of women, neonates delivered to 61(55.5%) women required NICU admission and perinatal Mortality was (14.5%) (as shown in table No 1 and 2)

On stratification of the data There was a statistically significant relation between low birth weight and gestational age(as shown in table no 3). There was significant relation between NICU admission and age of the patient (as shown in table 4). There was no significant relation between low apgar score and gestational age, age of the patient(table no 3 and 4). There was no significant relation between age of the patient and Low birth weight, Low apgar score (Table no 4). There was no significant relation gestational age and perinatal mortality, low apgar score and NICU admission(table no 3).

Table no. 1 fetal outcome

Fetal outcome		Frequency	Percentage
Low apgar score	Yes	48	43.6
	No	62	56.4
	Total	110	100.0
Low birth weight	Yes	36	32.7
	No	74	67.3
	Total	110	100.0
NICU admission	Yes	61	55.5
	No	49	44.5
	Total	110	100.0
Perinatal mortality	Yes	35	14.5
	No	206	85.4
	Total	241	100.0

Table no 2 maternal factors

Maternal factors		Frequency	Percentage
Age of patient	20-25 Years	45	40.9
	26- 30 Years	36	32.7
	31-35 Years	29	26.3
	Total	110	100.0
Gestational Age	34-36 weeks	52	47.3
	37-38 weeks	36	32.7
	38-40 weeks	22	20.0
	Total	110	100.0
Mode of delivery	LSCS	67	60.9
	SVD	43	39.1
	total	110	100.0
Anemia	Yes	69	62.7
	No	41	37.3
	Total	110	100.0
PPH	Yes	23	20.9
	No	87	79.1
	Total	110	100.0
Number of neonates	Twins	91	82.7
	Triplets	17	15.5
	Quadriplets	2	1.8
	Total	110	100.0

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Table no 3 stratification according to gestational age

		Gestational age			total	Percentage	p-value
		34 - 36 weeks	37-38 weeks	39-40 weeks			
Low apgar score	Yes	20	19	9	48	43.6	0.395
	No	32	17	13	62	56.4	
	total	52	36	22	110	100.0	
Low birth weight	Yes	41	18	15	74	67.3	0.018
	No	11	18	7	36	32.7	
	total	52	36	22	110	100.0	
NICU admission	Yes	26	25	10	61	55.5	0.113
	No	26	11	12	49	44.5	
	total	52	36	22	110	100.0	
Perinatal mortality	Yes	14	13	8	35	14.5	0.580
	No	101	68	37	206	85.5	
	total	115	81	45	241	100.0	

Table no 4 stratification according to age

		Age of Patient			total	Percentage	p-value
		20-25 Years	26- 30 Years	31-35 Years			
Low apgar score	Yes	14	17	17	48	43.6	0.058
	No	31	19	12	62	56.4	
	total	45	36	29	110	100.0	
Low birth weight	Yes	34	22	18	74	67.3	0.174
	No	11	14	11	36	32.7	
	total	45	36	29	110	100.0	
NICU admission	Yes	16	26	19	61	55.5	0.002
	No	29	10	10	49	44.5	
	total	45	36	29	110	100.0	

DISCUSSION

Multiple gestation is a high-risk pregnancy associated with increased metarnal and fetal adverse outcomes and possible long term developmental problems and high cost involved. A study by Smits J showed twin pregnancy rate has been rising in last 2 decades currently Pakistan has 9-12/1000¹⁷

In our study increased incidence of multiple gestations were found in age group 20-25(40.9%). In contrast to study done by N Rizwan et al in 2010 at ayub teaching hospital had higher incidence of multiple gestations in women at age 31-40(54.1%)⁸. Our study showed incidence of anemia in 69 patients (62.7%) which was similar to study done by N Rizwan et al in which anemia was 65.6%⁸. In our study Incidence of post-partum hemorrhage (PPH) was 20.9%(23 patients) which was significantly lower than the study done by Mazhar SB et al in Pakistan institute of medical sciences in which incidence was 44.4%⁹.

In multiple gestations there is an increased risk of perinatal mortality, in our study incidence was 14.5% which is much higher than the study done by Sundaram S et al in 2021 in which incidence was 7.5%⁷.

Higher rates of lower segment caesarean section was noted in our study which was 60.9%(67 patients) which was slightly higher than the study done by Qazi G et al at lady reading hospital in which was 53.3%¹⁰. In another study done by Vogel JP et al rates of caesarean section were 42.9%¹². In Pyrbot JE study the incidence of LSCS was 52%¹³.

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The average length of multiple gestation is 35weeks. Preterm delivery occurs in about half of the total patients with multiple gestation. In our study incidence of preterm delivery was 47.3% which is similar to the study done by Qazi G et al¹⁰. In another study conducted in united states by Fumagalli M et al showed 62.3% incidence of premature delivery^{11,14}.

In fetal outcomes, in our study the incidence of NICU admission is 55.5%. incidence of low apgar score is 43.6% and incidence of low birth weight is 67.3%. which was similar to study done by Islam A¹⁵. The main contributory factor for the higher incidence here seems to be the referral of all high risk cases, this being the tertiary care hospital of the province.

CONCLUSION:

Our findings suggest the austere guidelines in maternal and neonatal outcomes in multiple pregnancies, the call for towards optimizing management of adverse perinatal outcomes The preventive measures for the risks attached to multiple pregnancy including prematurity hypertension, low birth weight, and SGA are often out of reach By implication, we propose that mother's with multiple gestation seek higher degree of obstetric care and acquiring band knowledge on the significance of timely interventional action and development.

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