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RESEARCH ARTICLE

MULTIFETAL GESTATION- INCIDENCE AND RISK FACTORS

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Key words:-

Twins, Multifetal Pregnancy, Multiple Pregnancy, Plural Birth

Abstract

Background: Advances in reproductive technology has increased the frequency of twinning. Various factors influencing the incidence of multifetal gestation were studied and incidence was determined.

Material and Methods: A Prospective observational study was conducted on all antenatal women admitted and delivered with multifetal gestation during 12 months duration at Atal Bihari Vajpayee government medical college, Vidisha. All these women were evaluated on the basis of a predesigned performa.

Result: During the study period total number of deliveries were 6011 and 56 cases with multifetal gestation. Incidence of twins was 0.91% and triplets was 0.017%. There was 1 conjoint twin delivery.

Conclusion: With continuous increase in multifetal pregnancies owing to Artificial Reproductive Therapy current database is necessary to analyse the change in trend.

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Introduction:-

The existence of mathematical relationship between the various order of multiple births were first stated by Hellin in 1895, when he claimed that twins occurred once in 80 birth, triplets once in 80² and quadruplets once in 80³.⁽¹⁾ Between 1980 and 2005, the twinning rate rose from 18.9 to 32.1 per 1000 live births.⁽²⁾ Over the same period the number of live birth from twin deliveries rose nearly 50% and the number of higher order multiple births increased more than 400%.⁽³⁾ Rate of monozygotic twins is relatively constant i.e. 5.5/100 throughout the world, while the incidence of dizygotic twins range from 4-50/1000. Conjoint twin is rare with incidence of 1.3 per 1,00,000 live births.

Recently, rate have increased because of advances in reproductive technology offsetting the naturally occurring rate decline and delayed child bearing. Factors influencing the frequency of dizygotic twinning are maternal age, parity, race and ethnicity, conception soon after cessation of oral contraceptives, genetic predisposition and use of fertility enhancing therapies. Centre for Disease Control and prevention (CDC) defines more narrowly as any procedure that entails the handling of both eggs and sperm or of embryos for the purpose of establishing a pregnancy, more are the chances of multiple pregnancy.

Objective Of The Study:-

To know the incidence and risk factors associated with multifetal gestation.

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Methods:-

Type of study- Prospective observational study.

Duration of study- 12 months.

Time period- 1st March 2019 to 29th February 2020.

Place of study- Atal Bihari Vajpayee Government Medical College, Vidisha.

All antenatals admitted and delivered with multifetal gestation during the study period at Atal Bihari Vajpayee Government Medical College, Vidisha. Data is collected and entered using a predesigned proforma.

Detailed history was taken and recorded. History regarding months of amenorrhea, gestational age at presentation, menstrual history, family history of multiple pregnancy, history of infertility treatment and past obstetric history was noted.

Results:-

During the study period total number of deliveries were 6011 and 56 cases with multifetal gestation. Incidence of twins was 0.91% and triplets was 0.017%. There was 1 conjoint twin delivery. (Table 1)

The incidence of twins was found to be maximum in age group 21-25 years (48.2%). (Table 2)

The incidence was found higher among patients belonging to low socio-economic class (92.86%). (Table 3)

The incidence was higher in patients from rural area (55.36%). (Table 4)

The incidence was higher in multiparous patients as compared to prim gravida (59%). (Table 5)

8 patients had family history of multifetal pregnancy (14.3%), out of which 5 patients (8.9%) had history on mother's side and 3 patients (5.4%) had history on father's side. (Table 6)

11 patients (19.6%) out of 56 had history of ovulation induction while 5 patients (8.9%) had history of undergoing artificial reproduction therapy for infertility. (Table 7)

The gestational age of presentation (by LMP) was <37 weeks (preterm) for 31 patients (55.36%) and >37 weeks (term) for 25 patients (44.64%). (Table 8)

Discussion:-

Other research in India by Boraskar et al (1977) has reported incidence of twins as 1 in 116 births, similar to our incidence of 1 in 109 births.

Hoestra et al (2008)⁽⁴⁾ did not find the contribution of genetic variants in the overall incidence of twinning whereas in our study 8 cases (14.3%) had family history of twins.

In the present study 11 cases (19.6%) conceived after ovulation induction. The incidence of multifetal pregnancies when ovulation is induced is between 6.8 to 7%.⁽⁵⁾ Increased incidence in our study is due to increase in overall ovulation induction.

Conclusion:-

In this era where artificial reproduction therapy is making enormous progression, incidence of multifetal pregnancy is bound to increase. As we will see further advancement in this field we have to be prepared to handle and manage more number of multifetal pregnancy and problems associated with it. Also current elaborate research work shall be done with the aim to create a database for further comparison of future change in prevalence and trend of multifetal pregnancy.

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none

Conflict of interest:

None declared

Ethical approval:

Not required

Table 1:- Incidence of patients with multifetal gestation.

Total number of deliveries	6011	100%
Number of patients with multifetal gestation	56	0.93%
Number of twins	55	0.91%
Number of triplets	1	0.017%
Conjoint twin	1	0.017%

Table 2:- Distribution according to age incidence.

Age group (year)	Number of cases	Percentage %
<20	3	5.4
21-25	27	48.2
26-30	17	30.36
31-35	3	5.36
>35	6	10.7
Total	56	100

Table 3:- Distribution according to SOCIO ECONOMIC STATUS.

BG Prasad Scale	Number of cases	Percentage %
I	1	1.8
II	3	5.35
III	22	39.3
IV	24	42.86
V	6	10.7
Total	56	100

Table 4:- Distribution according to residential address.

	Number of cases	Percentage %
Rural	31	55.36
Urban	25	44.64
Total	56	100

Table 5:- Distribution according to parity.

Parity	Number of cases	Percentage %
Primigravida	23	41.07
Multigravida	31	55.35
Grand multigravida	2	3.6
Total	56	100

Table 6:- Relation of incidence of multifetal pregnancy with family history of multifetal pregnancy.

Family history of twins	Number of cases	Percentage %
On mothers side	5	8.9
On fathers side	3	5.4
Total	8	14.3

Table 7:- Relation of infertility treatment with twins.

History of infertility treatment	Number of cases	Percentage %
Ovulation induction	11	19.6

Artificial reproduction therapy	5	8.9
Total	16	28.5

Table 8:- Distribution according to gestation age at presentation (according to LMP).

Gestational age (weeks)	Number of cases	Percentage %
<28	5	8.9
29-32	8	14.3
33-36	18	32.14
37-40	25	44.64
Total	56	100

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