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ORIGINAL RESEARCH

Evaluation Of Fetomaternal Outcome in Pregnant Women with Reproductive Tract Anomalies: A Prospective Hospital Based Study

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ABSTRACT

Background: Pregnancies with reproductive tract anomalies are well known to have higher incidence of maternal and fetal complications. These complications may be major or minor depending on the reproductive tract anomalies. The present study aimed to evaluate the maternal and fetal outcome in pregnant women with reproductive tract anomalies. **Methods:** The study was conducted in the department of OBG, at Travancore Medical College, Kollam, Kerala. A total of 30 pregnant women were included in the study based on inclusion and exclusion criteria. All the subjects were explained the study procedure and informed consent was obtained from them. Demographic, clinical and radiological data was recorded and analyzed. Statistical Package for Social Sciences (20.0) version was used for analysis. **Result:** A total of 30 subjects were analyzed in this study.19 patients had history of infertility. Maximum number of subjects were Primi gravidas. 21 pregnancies attained viability and 13 were carried till term. Maximum deliveries were done as LSCS.9 (30 %) had biconuate uterine anomaly. IUGR is the major obstetric complication. **Conclusion:** The study result concluded that there is a significant association between Obstetric complications with uterine anomalies.

Key words: Fetal, Uterus, Pregnant, Anomalies, Ultrasonography, Malpresentation.

INTRODUCTION

The reported prevalence of Mullerian anomalies in the general population has been evaluated to be around 0.4-5%. Mullerian anomalies are congenital anomalies of the uterus, where there is a change in the shape of the uterus and cervix.[1-3] Since Mullerian anomalies are associated with infertility, the incidence of patients with such anomalies in an antenatal clinic is usually low.[4] We have been diagnosing more and more cases of mullerian anomalies during routine antenatal ultrasound evaluation during the first trimester recently. In most clinical settings, sonography is initially performed for diagnosis. Both 2D and 3D ultrasonography is suitable for the diagnosis of uterine anomalies in pregnancy.[5] MR Imaging is currently considered ideal for the diagnosis of the anomalies. Because of the intertwined development of urinary and genital tract, anomalies in one system may be associated with abnormality in the other system also. Because of this close interlinking, there is increased possibility of bladder injury during cesarean section.[6,7] Mullerian anomalies carry significant obstetrical risk including first and second trimester abortions, mal presentations, fetal growth restriction, intrauterine fetal demise, PROM & preterm delivery. The risks posed for the pregnancy are due to abnormal uterine blood flow, cervical incompetence, diminished cavity size and reduced muscle mass of the hemi uterus (Donder winkel 1992).[8] Surgical correction by metroplasty is reserved for highly selected cases of bicornuate uterus. Some women with uterine abnormalities with repetitive pregnancy losses may benefit from transvaginal and trans abdominal cerclage (Golan,1992, Groom 2004).[9] It is only natural that most of the pregnancies in uterine anomalies are terminated by LSCS. Abnormal labour patterns are frequently observed in such uteri. Incoordinate uterine

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action is usually observed in such cases. Due to abnormal blood flow in the uterus and reduced cavity size the birth weight is usually reduced. Postpartum complications like adherent placenta, placenta accreta and severe postpartum haemorrhage may be observed if nidation occurs in the intrauterine septum.[10]. From this observation the present study aimed to evaluate the fetomaternal outcome in pregnant women with reproductive tract anomalies.

MATERIALS AND METHODS

Study Design: Retrospective observational study

Study settings: The study was conducted in the department of OBG, Travancore Medical College, Kollam, Kerala

Study period: July 2018 - December 2020

Inclusion Criteria

- Age between 20-40 years
- Uterine anomalies
- Singleton pregnancies
- Early Antenatal checkup in our hospital

Exclusion Criteria

- Recent uterine surgeries
- Multiple pregnancies
- Late antenatal registrations
- Genetic disorders

Procedure

The study protocol was approved by Institutional Research Committee and Institutional Human Ethics Committee. A total of 50 subjects were screened, only 30 subjects fulfilling the inclusion and exclusion criteria were included in the study. The study procedure was explained to each subject and informed consent was obtained. All the pregnant women's demographic, clinical and ultrasonography data were recorded and analyzed.

Statistical Analysis

The data was expressed in number, percentage, mean and standard deviation. Statistical Package for Social Sciences (SPSS 20.0) version used for analysis. Chi square test applied to find the statistical significant. p value less than 0.05 considered statistically significant at 95% confidence interval.

RESULT

The study was conducted in a tertiary care center in south Kerala. Among all the patients who delivered in the hospital over a period of 3 years there was a 0.55% prevalence of Mullerian anomalies. A total of 30 patients with Mullerian anomalies were observed. In these 30 patients, 19 that is 63.33% had a history of infertility. Among these 50.00% were Primi gravidas, 23.30 % were second gravidas and 20% had more than 2 pregnancies. Among the 30 patients with mullerian anomalies, the commonest anomaly was bicornuate uterus 9 (30.00%) and then uterine didelphys 6 (20.00%). Then followed by unicornuate uterus 5 (16.67%), arcuate uterus 4 (13.33%) and only a 10.00% septate uterus. (Table-1) There was 1 patient with other anomalies. The major area of interest in this study was about obstetric outcomes, obstetrical complications and then mode of delivery in pregnancies reaching the period of viability. There was a single case of vesicular mole among the pregnancies that were studied. (3.33%). The obstetric complications noted in the study were first trimester bleeding 6 (20.00%), second trimester bleeding 3 (10.00%), 9 (30.00%) cases had intrauterine growth retardation and 5 (16.67%) of them presented with cervical incompetence and all the 5 required cervical encirclage (Table-2). In this study only 3 (10.00%) had abnormal presentation that include breech presentation; transverse and oblique lies. Among all patients, first trimester abortions were 6 in number (20.00%), 3 (10.00%) were second trimester abortions and 26.60 % (8) delivered preterm. Among the patients reaching the period of viability, that is 21 (70.00 %), only 5 delivered vaginally. All the rest were caesarean sections (76.00%). The number of pregnancies carried to term were 13 (43.3%), 8 (26.66%) were lost to abortions and 1 was a molar pregnancy (Graph-1).

Table-1: Distribution of study population based on demographic and clinical data.

Demographic/clinical data	Number (n=30)	Percentage (%)
Parity		
Primi	15	50.00
Multi	7	23.33
Grand multi	6	20.00
More than 2 pregnancies	2	6.67
Period of gestation (weeks)		
<37	8	26.67
>37	13	43.33
First trimester abortions	6	20.00
Second trimester abortions	3	10.00
History of infertility		
Yes	19	63.33
No	11	36.66
Fetal presentation		

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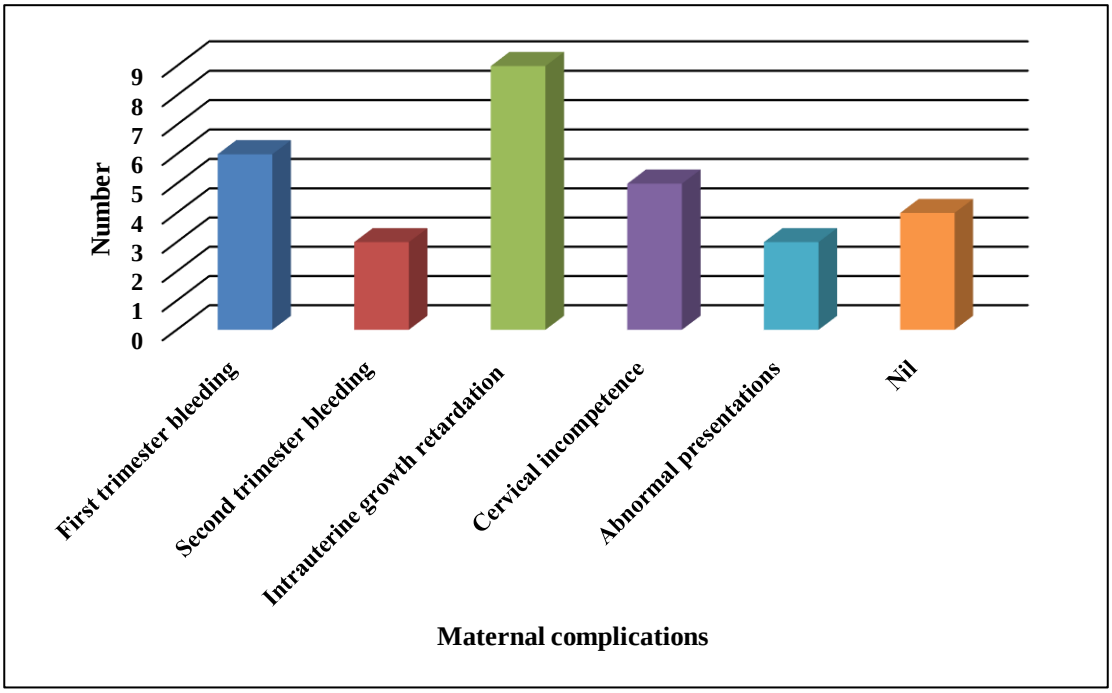
Cephalic	18	60.00
Breech	2	6.67
Transverse	1	3.33
Other(lost t abortions)	9	30.00
Mode of delivery		
LSCS	16	53.33
VD	5	16.67
Other(lost to abortions)	9	30.00

Table-2: Distribution of patients based on anomalies and complications

Observation	Number (n=30)	Percentage (%)
Uterine anomaly		
Bicornuate	9	30.00
Uterine Didelphys	6	20.00
Unicornuate uterus	5	16.67
Arcuate	5	16.67
Septate uterus	4	13.33
Other anomalies	1	3.33
Maternal complications		
First trimester bleeding	6	20.00
Second trimester bleeding	3	10.00
Intrauterine growth retardation	9	30.00
Cervical incompetence	5	16.67
Abnormal presentations	3	10.00
Nil	4	13.33



Graph 1: Distribution of subjects based on maternal complications

DISCUSSION

The present study was done in 30 subjects. In all the subjects demographic, clinical and gynecological data were collected and analyzed. It was observed that mean age of the subjects is 24.56 with the 3.78 standard deviation. Vyas et.al also observed that the maternal mean age is 21-25 years.[11] It is understood that the desire for pregnancy is higher during the 20-30 years and hence the attitude for seeking care for congenital uterine abnormalities in this age group. In the present study 18 had cephalic, 2 breech and 1 transverse lie presentations. Butt et.al showed that cephalic presentation is more in number compared to breech and transverse lie.[12] Both studies showed similar observations. Study by Chan YY et.al showed that maximum subjects are primi gravidas followed by multi and grand multi. In our study similar results were observed. 15 were primi, 7 multi and 6 grand

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multi. 13 had pregnancies crossing 37 weeks of gestation, 8 less than 37 weeks, 6 first trimester abortion and 3 had second trimester abortion. Study by Raj et.al concluded that maxim number of subjects underwent LSCS and less number had vaginal deliveries. In our study also similar results were observed, LSCS done in 16 and 5 vaginal deliveries.[13] The present study observed that most common uterine anomaly is bicornuate followed by uterine didelphys. Various authors also have reported similar results. It was explained that reproductive failure and infertility was common in subjects with congenital uterine abnormalities. The mechanism behind this is reduction in blood supply, gross anatomical variation, disorganization of uterus stroma and high intra uterine pressure are the major causes for fetal complications.[14, 15] In our study it was observed that more than 9 pregnancies showed intrauterine growth restriction and 8 were premature. Present study did not have any neonatal mortality. The study results showed that maternal and fetal complications increase as age increases. Subjects with congenital uterine abnormalities should be given special care to prevent the maternal and fetal complications.

Limitations

The main limitation of study is less sample size and no biochemical parameters were analyzed.

CONCLUSION

The study results concluded that uterine abnormalities can have major obstetric complications. The severity of complications is directly related to the severity of uterine anomalies. Patients with Mullerian abnormalities should be counselled in detail about the anticipated maternal and fetal complications and rate of complications and should be encouraged to deliver in centers better equipped to manage the complications and with better NICU facilities

Conflict of interest: Nil

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REFERENCES

1. Katz VL, Dotters DJ, Droegemeuller W: Complications of uterine leiomyomas in pregnancy. Obstet Gynecol. 1989;73:593-6.
2. Golan A, Langer R, Wexler S, Segev E, Niv D, David MP. Cervical cerclage-its role in the pregnant anomalous uterus. Int J Fertil. 1990;35(3):164-70.
3. Klatsky PC, Tran ND, Caughey AB, Fujimoto VY: Fibroids and reproductive outcomes: a systematic literature review from conception to delivery. Am J Obstet Gynecol. 2008, 198:357-66.
4. Airoldi J, Berghella V, Sehdev H, Ludmir J. Transvaginal ultrasonography of the cervix to predict preterm birth in women with uterine anomalies. Obstet Gynecol. 2005;106(3):553-6.
5. Ciavattini A, Clemente N, Delli Carpini G, Di Giuseppe J, Giannubilo SR, Tranquilli AL: Number and size of uterine fibroids and obstetric outcomes. J Matern Fetal Neonatal Med. 2015;28:484-8.
6. Koike T, Minakami H, Kosuge S, Usui R, Matsubara S, Izumi A, Sato I: Uterine leiomyoma in pregnancy: its influence on obstetric performance. J Obstet Gynaecol Res. 1999;25:309-13.
7. Strissel PL, Oppelt P, Cupisti S, Stiegler E, Beckman MW, Strike R. Assessment of pituitary and steroid hormones and member of the TGF-beta superfamily for ovarian function in patient with congenital uterus and vaginal aplasia (MRKH syndrome). Horm Res. 2009;41(5):408-13.
8. Lev-Toaff AS, Coleman BG, Arger PH, Mintz MC, Arenson RL, Toaff ME: Leiomyomas in pregnancy: sonographic study. Radiology. 1987;164:375-80.
9. Rama Ch, Esanakula J, Lepakshi G. Role of Congenital uterine anomalies in adverse pregnancy outcome. IOSR-JDMS. 2018;17(1):60-4.
10. Hua M, Odibo AO, Longman RE, Macones GA, Roehl KA, Cahill AG. Congenital uterine anomalies and adverse pregnancy outcomes. Am J Obstet Gynecol. 2011; 205(6):558.
11. Vyas RC, Moghariya AM, Shah SR, Parikh PM, Shelat PM. Mullerian ductal anomalies and its outcome. Int J Reprod Contracept Obstet Gynecol. 2019;8:440-4.
12. Butt F. Reproductive outcome in women with congenital uterine anomalies. Ann King Edw Med Univ. 2011;17(2):171.
13. Raj N, Chavan NN. An observational study of effect of mullerian anomalies on pregnancy. Int J Reprod Contracept Obstet Gynecol. 2019;8:1155-61.
14. Nagarathnamma R, James T, Prasad N. Pregnancy outcome in uterine anomalies. J Med Sci. 2017;3(1): 31-3.
15. Rama CH, Esanakula J, Lepakshi G. Role of congenital uterine anomalies in adverse pregnancy outcome. IOSR-JDMS. 2018;17(1):60-4.