

UNIT OF AXIS JOURNALS

International Peer Reviewed Medical Journal Committed for Excellence

Incidence of placenta previa in previous cesarean section

Goel A

Post Graduate Student

¹Department of Obstetrics and Gynecology, G R Medical College, Gwalior, MP, India

ORIGINAL RESEARCH

ABSTRACT

Aim

To study the incidence of placenta previa in previous cesarean section and compare it with incidence of placenta previa in women with no prior cesarean section.

Background

There is an evident literature support which suggest that the chances of placenta previa are not only more in patients who had a previous history of cesarean section but the chances also increases with the number of cesarean section in past. The overall incidence of placenta previa is 0.2-0.5% in western studies. It may be more in Indian population as there were not many studies on this important topic from Indian subcontinent.

Material Methods

Total 484 patients with history of previous Lower Segment cesarean Section were selected for study purpose. 496 subjects with no previous history of cesarean section were selected for control purpose. Clinical examination and USG was done at 28 weeks to detect placenta previa.

Results

Ten cases of placenta previa were found in the study group and incidence of placenta previa was calculated to be 2% in this group compared to incidence of only 0.6% i.e. 3 cases in control group ($p < 0.05$). Also the chances of finding placenta being morbidly adherent were increased in the study group as we found 2 cases of placenta increta and 3 cases of placenta accreta among these.

Conclusion

Incidence of placenta previa is high in patients with previous cesarean section as well as chances further increases with the successive increase in number of cesarean section in past.

Key Words

Placenta Previa, Adherent Placenta, Cesarean section.

Received on 23 July 2014

Accepted on 02 August 2014

Published on 15 August 2014

INTRODUCTION

Placenta Previa is one of the leading causes of antepartum hemorrhage in second and third trimester. It may cause serious morbidity and mortality to both the fetus and the mother. There is an evident literature support which suggest that the chances of placenta previa are not only more in patients who had a previous history of cesarean section but the chances also increases with the number of cesarean section in past. Cases where a placenta previa is associated with a previous cesarean section or uterine scar are associated with a much greater risk of the placenta being morbidly adherent (placenta accreta, increta or percreta) then the 'isolated' placenta previa^{1,2}.

The overall incidence of placenta previa is 0.2-0.5% in western studies^{3,4}. It may be more in Indian population. Thus, given the increased incidence of placenta previa per se following prior cesarean delivery, must be acknowledged as a real concern by obstetricians, given the rising cesarean section delivery rates that we have been experiencing over the last few decades, especially as the incidence of hysterectomy in such cases is very high and that there is a notable increase in maternal morbidity and mortality^{5,6}. As there were not many studies on this important topic from Indian subcontinent, present study was designed to assess the incidence of placenta previa in Indian population.

Thus assessing the exact incidence will guide us to modulate better policies to control Maternal Mortality Rate (MMR) due to these variables.

MATERIAL AND METHOD

The present study was conducted in Department of obstetrics and gynaecology, Kamla Raja Hospital, Gwalior – a tertiary care centre and included 980 subjects between September 2012 to August 2013. Ethical approval for this study was obtained from Medical Ethics Committee at Gajra Raja Medical College, Jiwaji University, Gwalior. Subjects excluded from the study were those who had previous classical cesarean section, who had history of any other previous surgery of uterus, patients having history of abortion or Medical Termination of Pregnancy (MTP) done, patients with any associated medical disorder and all primigravida patients. Written and informed consent was obtained from the patients prior to the study. 484 patients with history of previous Lower Segment Cesarean Section (LCS) were selected for study purpose. 496 subjects with no previous history of cesarean section were selected for control purpose. Clinical examination and Ultrasonography (USG) was done at 28 weeks to detect placenta previa. After data collection appropriate statistical analysis was done using SPSS software.

RESULT

Total 980 subjects (484 cases and 496 controls) were recruited in the study. Most of the patients ranged between 25-28 years of age. Median age was 26 years. Out of 484 cases (patients with previous history of cesarean section) most of the patients (423) had only one cesarean section , 59 patients had two cesarean section and 2 patients had three cesarean section in past [Table 1].

Table No. 1

Distribution of Patients as per no. of previous cesarean sections

No. of Previous Cesarean Section	No. of Patients	Percentage
One	423	87.3%
Two	59	12.2%
Three	2	0.4%
Total	484	100%

Ten cases of placenta previa were found in the study group and incidence of placenta previa was calculated to be 2% in this group compared to incidence of only 0.6% i.e. 3 cases in control group ($p < 0.05$) as seen in table 2.

Table No. 2

Incidence of Placenta Previa in patients with and without previous cesarean section

Previous cesarean section	No. of patients	No. of placenta previa	Incidence
Yes	484	10	2%
No	496	3	0.6%

Study shows that most common type of placenta previa seen in the study group was type III with 6 cases, 2 patients had type IV placenta previa and 1 patient each of type I and II while in control group there were 3 cases, one each of type I, II and III. Also the chances of finding placenta being morbidly adherent were increased in the study group as we found 2 cases of placenta increta and 3 cases of placenta accreta among these [Table 3].

Table No. 3

Types of Placenta Previa in Patients with and without previous cesarean section

Type of Placenta Previa	No. of Patients with			
	Previous cesarean section	Adherent Placenta	Normal Vaginal Delivery	Adherent Placenta
Type I	1	0	1	0
Type II	1	1	1	0
Type III	6	2	1	0
Type IV	2	2	0	0
Total	10	5	3	0

Our study also shows that patients with one cesarean section in past has increased risk of placenta previa as compared to those without a previous cesarean section and the patients with 2 cesarean sections had further increased risk when compared to patients with only one cesarean section in past indicating that chances of placenta previa increases with successive increase in number of cesarean section in past [Table 4].

Table No. 4

Incidence of placenta previa with respect to number of previous Caesarean sections

No. of previous caesarean deliveries	No. of patients	No. of placenta previa	Incidence
Nil	496	3	0.60%
One	423	6	1.41%
Two	59	3	5.08%
Three	2	1	50% (Small sample size)

DISCUSSION

The overall incidence of placenta previa in large scale studies done abroad was found to be 0.2-0.5%^{3,4}. However it may be more in Indian population, so a prospective case control study was designed in order to assess the incidence of placenta previa in patients who had a history of previous cesarean section, in Indian subcontinent. In our study 1.3% patients (10 cases in study group and 3 cases in control group) had placenta previa.

Various researchers compared incidence of placenta previa in second birth whose first birth delivered by cesarean section or vaginally. Lydon et al⁷ found incidence of placenta previa at second birth who had cesarean first birth to be 0.5%, while it was 0.4% in study by Yang et al¹ and 1.2% by Cieminski et al³. The incidence of placenta previa in same group (previous one cesarean section) turned out to be 1.41% in our study. Hershkowitz et al⁸ found the overall incidence of placenta previa in previous cesarean section group to be 1.5% while in our study the overall incidence was 2%.

The commonest type of placenta previa seen in our study was type III followed by type IV which is in accordance with earlier study by Ikechebelu et al⁹. Our study shows that chance of finding placenta being morbidly adherent also increases in women with previous cesarean section. Similar results were obtained by Kennare et al¹⁰, who showed that cesarean delivery cohort had increased chances of placenta increta Odds Ratio (OR) 18.79, 95% Confidence Interval (CI) 2.28-864.6). Sumigama et al⁵ also found that only 1.1% of cases of placenta previa without prior cesarean section were increta/percreta, in contrast to 37% of placenta previa were increta/percreta after prior cesarean section. Chattopadhyay et al⁶ found similar results.

Our study also concludes that chances of placenta previa increases with successive number of cesarean sections in past which is in accordance with earlier study of Getahun D et al¹¹ which showed that cesarean delivery in the first and second birth conferred a two-fold increased risk of placenta previa in third pregnancy (Relative Risk (RR) 2.0, 95% Confidence Interval (CI) 1.3-3.0 and there is a dose response pattern in the risk of previa, with increasing number of prior cesarean deliveries. Ziadeh et al² also concluded with similar results.

CONCLUSION

1. Incidence of placenta previa is high in patients with previous history of cesarean section.
2. The chance of placenta previa also increases with the successive increase in the number of cesarean sections.
3. Also incidence of adherent placenta increases as number of previous cesarean section increases.

REFERENCES

1. Yang Q, Wen SW, Oppenheimer L, Chen XK, Black D, Gao J, Walker MC. Association of caesarean delivery for first birth with placenta previa and placental abruption in second pregnancy. *BJOG*. 2007; 114(5): 609-13.
2. Ziadeh SM, Abu-Heija AT, El-Jallad MF. Placental previa and accreta: an analysis of two years experience. *J Obstet Gynaecol* 1999; 19(6): 584-6.
3. Cieminski A, Długolecki F. Relationship between placenta previa and maternal age, parity and prior caesarean deliveries. *Ginekol Pol*. 2005 Apr; 76(4):284-9.
4. Tuzovic L, Djelmis J, Ilijic M. Obstetric risk factors associated with placenta previa development: case-control study. *Croat Med J* 2003; 44(6): 728-33.
5. Sumigama S, Itakura A, Ota T, Okada M, Kotani T, Hayakawa H, Yoshi, Lim YK, Kim HS, Chang KH, Lee JP, Ryu HS. Sonographic findings of placental lacunae and the prediction of adherent placenta in women with placenta previa totalis and prior Cesarean section. *Ultrasound Obstet Gynecol*. 2006; 28(2): 178-82.
6. Chattopadhyay SK, Kharif H, Sherbeeni MM. Placenta previa and accreta after previous caesarean section. *Eur J Obstet Gynecol Reprod Biol*. 1993; 52(3): 151-6.
7. Lydon-Rochelle M, Holt VL, Easterling TR, Martin DP. First-birth caesarean and placental abruption or previa at second birth. *Obstet Gynecol* 2001; 97(5 Pt 1): 765-9.
8. Hershkowitz R, Fraser D, Mazor M, Leiberman JR. One or multiple previous caesarean sections are associated with similar increased frequency of placenta previa. *Eur J Obstet Gynaecol Reprod Biol* 1995; 62(2): 185-8.
9. Ikechebelu JI, Onwusulu DN. Placenta previa: review of clinical presentation and management in a Nigerian teaching hospital. *Niger J Med*. 2007; 16(1): 61-4.
10. Kennare R, Tucker G, Heard A, Chan A. Risks of adverse outcomes in the next birth after a first caesarean delivery. *Obstet Gynecol*. 2007; 109(2 Pt 1): 270-6. Erratum in: *Obstet Gynecol*. 2007; 109(5): 1207
11. Getahun D, Oyelese Y, Salihu HM, Ananth CV. Previous caesarean delivery and risks of placenta previa and placental abruption. *Obstet Gynecol* 2006; 107(4): 771-8.

CORRESPONDENCE ADDRESS

Dr A Goel,

Post Graduate Student,

Department of Obstetrics and Gynecology,

G R Medical College, Gwalior (M. P.), India

E-Mail: dranugoel11@gmail.com

Please cite this paper as: Goel A. Incidence of placenta previa in previous cesarean section. Inter J Medical Sci Res Prac 2014; 1 (2): 36-39.

ACKNOWLEDGEMENTS

Nil

PEER REVIEW

Double Blinded externally peer reviewed.

CONFLICTS OF INTEREST

Nil

FUNDING

Nil