ORIGINAL RESEARCH PAPER

Volume-8 | Issue-8 | August - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

EVALUATION OF THE RELATION BETWEEN PLACENTA PREVIA IN SCARRED UTERUS AND IN NON-SCARRED UTERUS AND THE OUTCOMES SPECIALLY IN REFFERENCE TO PLACENTA ACCRETA SPECTRUM

Gynaecology

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ABSTRACT

Recently, the incidence of Placenta Previa is showing an increasing trend, which may be due to increased incidence of scarred uterus, mainly the previous cesarean section3,19,22,24,25. And at the same time, we are encountering more cases of the dangerous variety of placenta previa as the consequence, and that is nothing but "Placenta Accreta Spectrum", the term popularly introduced by ACOG. (ACOG – Number 7 / Committee opinion No. 529, July 2012 / Maternal – Fetal medicine)1. We also know, that, this morbidly adherent placenta often face severe type of post partum hemorrhage, for which often the uterus is sacrificed23,25.

AIM – Our aim of the study was to reach a proper antenatal diagnosis of the character of the Placente Previa specially in a previous cesarean section case, so that we can prepare ourselves to avoid the treacherous PPH or to take prompt action in that dire emergency.

Study Design : A Cross – Sectional Study.

Materials and Methods : This study was done among 91 pregnant mothers with Placenta Previa, over the period of One year from 1st January, 2018 to 31st December'2018. The study was conducted at a tertiary-care hospital in South-Bengal. And all the outcomes were categorically recorded and compared with the previous studies. Consent form from each and every patient was collected for the publication of the study, which was not at all a difficult job – as because it was an emergency, life threatening status, the patient,s parties were always cooperating us to evaluate the condition , targetting – how to reduce the frequency of this dangerous category

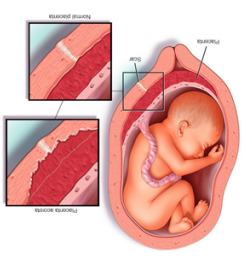
Result : 91 Cases of Placenta previa in total 10,995 deliveries, in the year 2018 at CNMCH, indicating the incidence of Placenta previa - 0.82 %. Total Cesarean Section done in that year was 5735 (52 %). To observe the pregnancy of plecenta previa in scarred uterus and in non scarred uterus, we also recorded the total no. of H/O previous cesarean section cases, on that year and that was 1798 i.e. 31.35% (1798 in 5735 cases). The cause of the increasing trend of cesarean section (52%) found due to the increased incidence of previous C.S. with its complications, which was also responsible for increased incidence of Placenta Previa and the Placenta Accreta Spectrum with their treacherous fangs. Cases diagnosed antenatally, specially the Accreta varities did better.

Conclusion : The Study concluded that the prior antenatal diagnosis of Placenta Previa specially in a scarred uterus can reduce maternal and fetal morbidity and mortality.

KEYWORDS

BACKGROUND :

The Placenta Previa cases, specially the major varities and also if associated with a scarred uterus, may cause grave emergencies , threatening the life of the mother. The placenta previa and the history of previous cesarean section are dangerously related with each other. The incidence of Placente Previa is in increasing trend recently, due to the increased incidence of Cesarean Section[2,3,19,20,22,24,25]. In scarred uterus, the Placenta Previa condition may be of severe variety, which is recently termed by ACOG as "Placenta Accreta Spectrum"[1], which was formerly known as morbidly adherent Placenta. The most favored hypothesis regarding the etiology of Placenta Accreta Spectrum, as stated by ACOG, is a defect of the endometrial-myometrial interface, leading to a failure of normal decidualization and thus the abnormal placentation[5,13,14,24.] in the area of a uterine scar, which allows abnormally deep placental anchoring villi and trophoblast infiltration. .



The Placenta Previa and the morbidly adherent placenta can be diagnosed in antenatal period, where we can get time to prepare ourselves with adequate antenatal checks; correction of anaemia ; the planning of termination of pregnancy at proper place and at proper time - covering the dexamethasone rescue to the premature babies ; ensuring adequate blood products and the last but not the least – the councelling to the mother along her family members about the dangers and the dire emergencies. In morbidly adherent placenta, if and when diagnosed, the directive councelling is very important. Adequate blood in hand, and if possible, the readiness of intrauterine balloon tamponed[7]and the fascility - is also to be thought off, before termination of pregnancy. In one word, prior antenatal diagnosis of the type of placenta – previa, with the help of Sonography and MRI[4,5,12,15,17,], anticipating morbidly adherent placentae, specially placenta previa in scarred pregnancy - are the gold standards to manage the dire emergencies properly, to reduce maternal and fetal morbidity & mortality. Recently, with the advancement of Radiodignosis, serial changes in cervical length, can predict the timing of emergency cesarean section in case of placenta previa[6,8]. A study was done by Ersoy AO et.al with the venous Pro BNP levels predicting placenta accreta. In future, this type of study will be very much rewarding for the diagnosis of morbidly adherent placenta before hand. So the Antenatal diagnosis of placenta previa is nothing but the first as well as the last word to reduce the maternal and fetal mortality.

OBJECTIVES :

1) To find out the incidence of Placenta Previa in present scenario.
2) To find out the relation of placenta previa with the history of previous caesarean section.
3) To establish the importance of proper antenatal diagnosis of Placenta Previa.

Inclusion Criteria :

1) Placenta Previa in non-scarred uterus.

2) Placenta Previa in scarred uterus – only the scars of previous cesarean sections.
3) Sigleton Pregnancy.
4) Gestational age 28 wks onwards.

Exclusion Criteria :
1) Post myomectomy scarred uterus
2) Post evacuation scarred uterus.

Study design : A Cross-sectional Study

METERIALS & METHODS :
This study was conducted at CALCUTTA NATIONAL MEDICAL COLLEGE AND HOSPITAL in the period of 1st January 2018 to 31st December 2018. 91 Placenta Previa cases were enrolled from antenatal clinic and from emergency admissions, maintaining the inclusion criteria. Frequency of placenta previa was noted. And at the same time the frequency of history of previous cesarean section was also recorded. During the study period, total cesarean section done in 5735 cases in one year. The indications of C.S. revealed an association with previous cesarean deliveries in 1798 cases. Among the 91 placenta previa cases, 28 were grouped in non scarred uterus and 63 cases were associated with history of previous cesarean section. The outcomes in reference to operative procedures; maternal complications; and fetal effects - all were documented.

RESULTS

Table – 1
Incidence of cesarean section :

No. of Total deliveries in one year (2018)	-	10,995
No. of Cesarean deliveries in that year (2018)	-	5,735

This task is showing the incidence of cesarean section is 52% in our study[2].

Table – 2
Incidence of history of Previous Cesarean Section :

No. of Cesarean section	-	5,735
H/O Previous C.S. as a whole	-	1,798 (31.35%)
H/O Previous C.S. (1)	-	1,639 (28.57%)
H/O Previous C.S. (>1)	-	159 (2.97%)

This table highlighting the history of Previous Cesarean Section found in 1798 cases, revealing the incidence of previous cesarean section taking part in recent C.S. is 31.35% as a whole. Among them 1639 cases had previous 1 C.S. and 159 cases had > 1 C.S. before.

Table – 3
Incidence of Placenta Previa :
Total No. of deliveries – n = 10,995

Total Cesarean deliveries n = 5,735	Placenta Previa in non-scarred uterus	Placenta Previa in scarred uterus
Total No. of Placenta Previa cases n = 91	28	63

Here, we observed the incidence of Placenta Previa was 0.82% (91 cases of placenta previa in total 10995 deliveries), and 1.5% in total no. of Cesarean deliveries (91 in 5735)[3]. Among them, Placenta Previa in scarred uterus were 63 (1.09%) i.e. 63 cases in 5735, and in non-scarred uterus, 28 (0.48%)[20] i.e. 28 in 5735 .

Table – 4
Incidence of Placenta Previa in non scarred and scarred uterus in reference to total deliveries[20].

Total deliveries	n= 10,995	%
Placente Previa in non-scarred uterus	28	0.25
Placente previa in scarred uterus (only previous C.S. cases)	63	0.57

Table – 5
No. of cases lying in "Placenta Accreta Spetrum".

Placenta previa in scarred uterus n = 63	No. of Placenta Accreta cases -14	22.22%
Placenta previa in non-scarred uterus n = 28	No. of Placenta Accrete cases -1	3.57%

Total no. of Placenta Accreta cases were 15 in 10,995 deliveries.

That is 1.36 / 1000 birth[16]. In our study there is an increased incidence of Placenta Accreta in scarred uterus (22.22%) and 3.57% in non-scarred uterus, in contrast to previous study done by Leungetal 1995.

Table - 6
Maternal Outcomes[9,10,25] :

	Total no. of Placenta Previa cases n = 91	Placenta previa not diagnosed antenatally n = 13	Placenta Previa in non scarred uterus diagnosed antenatally n = 27	Placenta Previa in scarred uterus diagnosed antenatally n = 51
1.	Intra operative blood transfusion	Majority > 2 units	Majority < 2 units	Majority < 2 units
2.	Duration of operation (in min.)	> 45-60 min	< 45 – 60 mins	> 45 – 60 mins
3.	Vascular ligatures applied	Majority required	Majority not required	All cases required
4.	Box Stitches	Applied	Applied	Applied
5.	Placenta Accreta	8 cases	1 cases	6 cases
6.	Cesarean hysterectomy18,23.	7 cases (3 cases when failed following vessel ligature and box stitches) (1 case when failed with IBT) (Other 3 cases were decided at the start point due to associated placental abruption & massive blood loss with uterine atony.)	0	2 cases (1 case left in situ and that was – total Placenta Accreta with an intension of methotrexate later on, but in just postoperative period, severe postpartum haemorrhage started when hysterectomy was inevitable.) (1 case could not be saved by IBT)
7.	Maternal death	4 3 following cesarean Hysterectomy due to massive blood loss 1 following relaporotomy in vessel ligature case in a case of primigravid case.	0	1 – in total Placenta increta

Table – 7 :
Fetal Outcomes :

	Total No. of Placenta Previa cases n = 91	Placenta Previa not diagnosed antenatally n = 13	Placenta Previa diagnosed antenatally n = 78
1.	Prematurity	11 cases	69 cases (Dexametharone rescue given in time)
2.	RDS	11 cases	11 (due to extreme prematurity)
3.	Birth Asphyxia	04 cases	5 cases
4.	IUFD	02 cases	Nil

5.	SNCU admission	11 cases	63 cases
6.	Congenital abnormality	1 (CHD)	0

DISCUSSION

We are very much acquainted with the fangs of placenta previa cases – the dreadfull antepartum hemorrhage and the postpartum hemorrhage, responsible for the maternal and the fetal deaths. Our study revealed the incidence of placenta previa in total deliveries for the year of 2018, and that is 0.82% (8.2/1000 live birth)[3]. A meta analysis done by Ronan Bekker et al. showed the incidence of placenta previa – 0.5% of all US pregnancies in 1956 to1997. But they also left a comment that the risk increases 1.5 to 5 fold when associated with a history of previous cesarean deliveries. Our study revealed 1.5% (91 cases in total 5735 cesarean deliveries) of placenta previa cases, when compared with cesarean sections done on that year. To find out the incidence of cesarean deliveries, we observed the no. of cesarean section and that was 5735 in 10995 total deliveries, depicting 52%. Among them, 1798 cases (31.35%) had the history of previous cesarean section. History of previous one C.S. found in 1639 cases (14.90%, i.e. 1639 cases in 10995 total deliveries) ; and with the history of previous cesarean sections > 1, in 159 cases[3]. We observed the incidence of placenta previa – 0. 82%,when calculated among total deliveries [20] ; whereas, the incidence placenta previa was 1.5% (91 in 5735) shown in total cases of present cesarean deliveries. Placenta previa found in scarred uterus (h/o previous c.s.) was 63 (0.57% - 63 in 10995)[20], and in nonscarred uterus it was 28 (0.25%)[20]. Now, the occurrence of morbidly adherent placenta was 1.36/1000 birth, 15 cases in 10995 deliveries, vide: https://www.ncbi.nlm.nih.gov >pub… Rising incidence of morbidly adherent placenta and its association with previous caesarean section….NCBI by KK Cheng 06 nov-2015. In our study, among the 15 cases of placenta accreta, 14 were related with previous cesarean section scar. One case was of fresh occurrence. When records of maternal outcomes were judged, cases of no prior antenatal diagnosis of placenta previa (specially in scarred uterus) revealed poor outcomes. 13 such cases had no prior antenatal diagnosis. 78 cases diagnosed antenatally by sonography. Among them 27 cases were of nonscarred group and 51 cases had scarred uterus. Cases of placenta previa with the history of previous cesarean section advised MRI to diagnose morbidly adherent Placenta[4,5,12,13,15,17].

Details of maternal outcomes depicted in Table 6. About the perinatal outcome, prematurity was the commonest cause of high incidence of perinatal morbidity and mortality (https:// www.ijrcog.org > do… Maternal and perinatal outcome in placenta previa – one year study in … 12-Jul – 2016).

CONCLUSION :

The occurrence of placenta previa and placenta accreta are increasing recently, due to the high occrence of Cesarean Section. As we observed, the placenta previa , specially the placenta accrete cases - follow its usual path. Even with prior antenatal diagnosis, the outcomes often recorded gloomy. But routine antenatal diagnosis by USG and MRI – in at least scarred uterus are the gold standard for the prior preparation to tackle the real emergency without wasting the golden hour. On the other aspect, at this stage, we should think of - the reduction of this dangerous entity – the Placenta Accreta Spectrum – only by reducing the no. of cesarean deliveries[3,21]. And here, comes the cesarean - audit idea as the need of the hour.

REFERENCES

1) https://www.ajog.org >abstract, placenta Accreta Spectrum-American Journal of Obstetrics & Gynecology by A.G. Cahill – 2018, 20th Nov.
2) https ://www.npr.org/sections by Michaeleen Doucleff. Rate of C-Scetions is rising At An "Alarming" Rate, Reports says, October 12, 2018.
3) Ronan Bakker, MD; https://emedicine.medscape.com. How to reduce incidence of Placenta previa – 8th Jan'2018.
4) Einerson BD, Rodriguez CE, Kenedy AM et.al. Magnetic resonance imaging is often misleading when used as an adjunct to ultrasound in the management of placenta accreta spectrum disorders. Am J Obstet Gynecol-2018; 218:618. e 1-7.
5) Jauniaux E, Collins S, Burton GJ. Placenta accreta spectrum : Pathophysiology and evidence – based anatomy for prenatal ultrasound imaging. Am J Obstet Gynecol 2018; 218 : 75 – 87.
6) Rac MWF, Mc Intire DD, Wells CE, et. Al. Cervical length in patients at risk for placenta accreta. J Ultrasound Med 2107; 36:1431-6.
7) https ://www.ncbi.nlm.nih.gov>Pub….. effect of routine rapid insertion of Bakri balloon tamponade on reducing …….NCBI by H.Soyama – 2017, cited by 14 related articles 1. Arch Gynecol Obstet. 2017 Sep; 296(3): 469 – 474 ….. June 24, 2017.
8) Shin JE, Shin JC, Lee Y, Kim SJ. Serial change in cervical length for the prediction of emergency cesarean section in Placenta previa. PLOS one 2016;//:e149036
9) Sarojini, Malini KV. Radhika. Clinical study of placenta previa and its effect on maternal health & fetal outcome. Int J Reprod contracept Obspt Gynecol 2016: 5 : 3496 -9
10) Purvi M Parikh, Shailesh Makwana, Sapana Shah, Vivek Vithalani. Feto-Meternal Outcome in placenta previa in scarred uterus Vs Non-scarred Uterus. IOSR Journal of Dental and Medical Sciences (IOSR – JDMS) e-ISSN : 2279 – 0853, P-ISSN: 2279-0861. Volume 15, Issue 1 Ver – 1 (Jan, 2016), PP 69-73.
11) Ersoy AO, Oztas E, Ozler S, et.al. Can venous Pro BNP levels predict placenta accreta ? J Matern Fetal Neonatal Med 2016; 29: 4020-4.
12) Collins SL, Ashcroft A, Braun T, et.al – Proposal for standardized ultrasound descriptors of abnormally invasive placenta (EW – AIP). Ultrasound Obstet Gynecol 2016 ; 47 : 271 – 5
13) Thurn L, Lindgvist PG, Jakobsson M, et.al. Abnormally invasive placenta-prevalence, risk factors and antenatal suspicion : results from a large population – based pregnancy cohort study in the Nordic countries – BJOG 2016; 123 : 1348 – 55
14) Silver, R. Abnormal placentation : placenta previa, vasa previa and placenta accreta. Obstet Gynecolol. 2015.126 : 654 – 68.
15) Veno Y, Kitajima K, Kawakami F, et al – Novel MRI finding for diagnosis of invasive placenta previa : …..Eur Radial. 2014 April.24(4): 881-8 [Medline].
16) Creasy RK, Resnik R, et al. Placenta previa placenta accreta, abruptio placentae, Vasa previa; …… Saunders : Phila delphia, PA; 2014 732 – 742.
17) Allen BC, Leyendecker JR – Placental evaluation with magnetic resonance – Radiol Clin north Am. 2013 Nov; 51 (6): 955 – 56 [Medline].
18) Dandolu V, Graul AB, Lyons A, Matteo D. Obstetrical Hysterectomy, cesarean delivery and abnormal placentation. J Matern –Fetal Neonatal Med. 2012;25(1): 74-77 [Pubmed] [Google Scholar]
19) Suknihom W, Tannirandorn Y. Previous uterine operation and placenta previa J Med Assoc Thailand = Cholmaihet thangphact. 2011, 94(3) : 272 – 277 [Pub Med] [Google Scholar].
20) https :// www.ncbi.nlm.nih.gov>books pregnancy & childbirth after Cesarean section. Nov, 2011.
21) Memon S, Kumari K, Yasmin H, et al. Is it possible to reduce rates of Placenta Previa ? J Pak Med Assoc.2010; 60(7): 566 – 569 [Pub Med] [Google Scholar]
22) Akram H, bukhari AA. Multiple Caesarean section – am association with increasing pregnancy of Placenta previa. Biomedica. 2009; 25(1) : 28 – 31 [Google Scholar]
23) Choi SJ, Song SE, Jung KL, et al. Antepartum risk factors associated with peripartum cesarean hysterectomy in women with placenta previa. Am J Perinatol. Jan – 2008. 25(1): 37 – 41.
24) Yazdani T, Islem A, Nadeen G, et al. Frequency of Abnormal Placentation in Patients with previous Caesarean section. J Rawalpind; Med coll. 2007; II(I); 39 – 41. [Google Scholar]
25) Grobman WA, Gersnoviez R, London MB, et al. Pregnancy outcomes for women with placenta previa in relation to the number of prior cesarean deliveries. Obstet Gynecol – 2007; 110(6): 1249 – 1255 …. [Pubmed] [Google Scholar]