

EFFECT OF INTERPREGNANCY INTERVAL ON SUBSEQUENT PREGNANCY FOLLOWING A MISCARRIAGE

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ABSTRACT

BACKGROUND

Primary Objective of this study was to determine the effect on interpregnancy interval on subsequent pregnancies after a miscarriage. Secondary Objective was to study the maternal and foetal complications following shorter interpregnancy interval.

MATERIALS AND METHODS

This study was done in OBG Department, Government TD Medical College, Alappuzha, during 2011 to 2013. A total of 347 cases were studied who have had a miscarriage before the current pregnancy.

RESULTS

Compared with women with an interpregnancy interval of 6-12 months, those who conceived again within six months were more likely to have another miscarriage and ectopic gestation (odds ratio 0.106, p value 0.000.). Compared with women with interpregnancy interval of <6 months, women who conceived again in 6-12 months went on to have a vaginal delivery in the second pregnancy (Odd's ratio 0.79 and p value in is significant). Lower segment caesarean section (LSCS) is significantly high in women whose interpregnancy interval is more than 12 months (Odds ratio 0.64 and p value 0.000). Maternal complications like APH, PPH, preeclampsia, hypertension, etc. were significantly seen higher in women whose interpregnancy interval is more than 12 months (odds ratio 0.41 p value- 0.000). The women with interpregnancy interval less than 6 months didn't develop any significant foetal complications. Most of the complications like premature rupture of membrane (PROM), meconium stained amniotic fluid (MSAF), oligamnios, foetal growth restriction (FGR), etc. are seen more in the women with interpregnancy interval 6 to 12 months odds ratio (0.30 p value significant), but breech and foetal distress are seen significantly higher in women with interpregnancy interval more than 12 months (Odds ratio 0.29 p value 0.000). Induction of labour was not significantly raised in any group.

CONCLUSION

Women who conceive within 6 months of an initial miscarriage have the best reproductive outcomes and lower complication rates in a subsequent pregnancy.

KEYWORDS

Miscarriage, Termination, Ectopic Pregnancy, Caesarean Section.

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BACKGROUND

Abortion is the termination of pregnancy by any means before the foetus becomes viable. Viability is reached at 24 weeks.¹ Women with previous miscarriage has increased risk of miscarriage and has increased incidence of maternal and foetal complications like PROM, breech, foetal distress, PPROM, oligamnios, antepartum haemorrhage, postpartum haemorrhage, etc. in subsequent pregnancy.²

Interpregnancy interval after miscarriage is defined as

the time period between the day of abortion and the first day of last menstrual period of index pregnancy.³ The current guidelines from WHO recommends the women should wait for at least six months after miscarriage for trying again and at least one year after normal delivery. However, first time mothers aged 35 or over are advised to plan a second pregnancy shortly after their first.⁴

Lowest risk of poor birth outcome seems to be achieved with an interpregnancy interval of 1 or 2 years. Zhu et al found that the interpregnancy interval less than 2 years had a lowest risk of low birth weight, preterm birth,⁵ SGA, while Conde-Aguledo et al found interpregnancy interval of 1 to 2 years was associated with lowest risk of adverse outcome.⁶

There were only few studies whether interpregnancy interval affect the pregnancy outcome and maternal and foetal wellbeing maybe because it is difficult to collect reliable data on pregnancies that do not result in livebirth.⁵

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We compared maternal and foetal complications and pregnancy outcome in women with different interpregnancy interval after a miscarriage.

MATERIALS AND METHODS

It is a descriptive study in which the effect of interpregnancy interval in subsequent pregnancy following a miscarriage is studied who presented to the casualty, outpatient and labour ward in Department of OBG, TDMCH, Alappuzha.

The audit group comprises about 347 pregnancies of which 56 (16.1%) were with interpregnancy interval less than 6 months. 187 (53.9%) were with interpregnancy interval between 6 to 12 months. 104 (30%) were with interpregnancy interval more than 12 months.

Inclusion Criteria

Women who had conceived after a earlier miscarriage before the current or index pregnancy during the study period.

Exclusion Criteria

All pregnant women with any co-existing medical or surgical illness in the past or diagnosed in the present pregnancy were excluded from the study.

RESULTS

A total of 347 pregnancies were studied of which 56 (16.1%) were with interpregnancy interval less than 6 months, 187 (53.9%) were with interpregnancy interval between 6 to 12 months, 104 (30%) are with interpregnancy interval more than 12 months.

Interval between Abortion and Present Pregnancy	Count	Percent
Less than 6 months	56	16.1
6-12 months	187	53.9
More than 12 months	104	30.0

Table 1. Distribution According to Interval between Abortion and Present Pregnancy

Most of the mothers were between 26 to 30 yrs. (30.5%) and though statistically not significant. Most (64%) of the mothers we studied belong to the urban area. Statistically significant mothers had their miscarriage managed both by medical and surgical method (51%) and the rest were managed medically or surgically. A few had spontaneous abortion in previous pregnancy. Almost, 69% of them were delivered following induction, though confounding factors not ruled out, the number we found were significant. More than 50% of the foetus developed complications and 80% mothers went on their pregnancy after miscarriage uneventfully. Significant number of mothers delivered vaginally.

Outcome	Count	Percent
Abortion	16	4.6
Ectopic	12	3.5
Vaginal delivery	207	59.7
LSCS	112	32.3

Table 2. Distribution According to Outcome

DISCUSSION

A total of 347 pregnancies were studied, of which 56 (16.1%) were with interpregnancy interval less than 6 months, 187 (53.9%) were with interpregnancy interval between 6 to 12 months, 104 (30%) were with interpregnancy interval more than 12 months.

Compared with women with an interpregnancy interval of 6-12 months, those who conceived again within six months were more likely to have another miscarriage and ectopic gestation (odds ratio 0.106, p value 0.000). Eleanor Love et al in Scotland also has a contributory evidence for the same in their study.⁷

		Abortion/Ectopic		Vaginal Delivery		LSCS		χ^2	P
		Count	Percent	Count	Percent	Count	Percent		
Age	<19	5	29.4	12	70.6	0	0.0	48.36**	0.000
	20-25	5	2.6	119	61.7	69	35.8		
	26-30	8	7.5	64	60.4	34	32.1		
	>30	10	32.3	12	38.7	9	29.0		
Place	Rural	14	11.1	71	56.3	41	32.5	2.64	0.268
	Urban	14	6.3	136	61.5	71	32.1		
Socioeconomic status	BPL	26	8.9	169	57.7	98	33.4	3.54	0.170
	APL	2	3.7	38	70.4	14	25.9		
Obstetric score	G2	17	6.5	161	61.2	85	32.3	3.92	0.141
	>G3	11	13.1	46	54.8	27	32.1		
Type of abortion	Spontaneous	6	20.7	13	44.8	10	34.5	38.45**	0.000
	Medical	8	8.9	68	75.6	14	15.6		
	Medical+Surgical	11	6.2	109	61.6	57	32.2		
	Surgical	3	5.9	17	33.3	31	60.8		
Interval between abortion and present pregnancy	Less than 6 months	15	26.8	26	46.4	15	26.8	106.86**	0.000
	6-12 months	8	4.3	149	79.7	30	16.0		
	More than 12 months	5	4.8	32	30.8	67	64.4		
Induction	Yes	0	0.0	154	71.3	62	28.7	11.22**	0.001
	No	0	0.0	52	52.0	48	48.0		

Table 3. Association of Outcome with Selected Variables

Compared with women with interpregnancy interval of <6 months, women who conceived again in 6-12 months went on to have a vaginal delivery in their index pregnancy (odd's ratio 0.79 and p value, 0.05). LSCS is significantly higher in women whose interpregnancy interval is more than 12 months (odds ratio 0.64 and p value 0.000). Adi Y. Weintraub et al found there is significantly higher number of caesarean section in a pregnancy following abortion.⁸

Maternal complications like antepartum haemorrhage (APH), postpartum haemorrhage (PPH), preeclampsia, hypertension, etc. were seen significantly higher in women

whose interpregnancy interval is more than 12 months (odds ratio 0.41 and p value 0.000). The women with interpregnancy interval less than 6 months didn't develop any significant foetal complication. Zhu et al found the interpregnancy interval less than 2 years had a lowest risk of low birth weight, preterm birth.⁵ SGA while Conde-Aguledo et al found interpregnancy interval of 1 to 2 years was associated with lowest risk of adverse outcome.⁶

		Less than 6 Months		6-12 Months		More than 12 Months		χ^2	p
		Count	Percent	Count	Percent	Count	Percent		
Induction	Yes	27	12.5	121	56.0	68	31.5	0.27	0.875
	No	14	14.0	57	57.0	29	29.0		
Type of abortion	Spontaneous	21	72.4	8	27.6	0	0.0	103.49**	0.000
	Medical	15	16.7	61	67.8	14	15.6		
	Medical + Surgical	16	9.0	100	56.5	61	34.5		
	Surgical	4	7.8	18	35.3	29	56.9		
Place	Rural	24	19.0	70	55.6	32	25.4	2.52	0.284
	Urban	32	14.5	117	52.9	72	32.6		
Socioeconomic status	BPL	49	16.7	156	53.2	88	30.0	0.55	0.760
	APL	7	13.0	31	57.4	16	29.6		

Table 4. Association of Interval between Abortion and Present Pregnancy with Selected Variables

Most of the complications like PROM, MSAF, oligamnios, FGR, etc. are seen more in the women with interpregnancy interval 6 to 12 months odds ratio (0.30 p value significant), but breech and foetal distress are seen significantly higher in women with interpregnancy interval more than 12 months (odds ratio 0.29, p value 0.000).

CONCLUSION

Women who conceive within 6 months of an initial miscarriage have the best reproductive outcomes and lower complication rates in a subsequent pregnancy. Maternal complications were rare. Most patients delivered vaginally, previous history of abortion alone does not increase the rate of caesarean section in the index pregnancy.

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