

STUDY OF LOCATION OF PLACENTA AND ITS EFFECT ON CLINICAL OUTCOME

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SUMMARY

Placenta was localised in 84 cases having breech and in 50 cases of transverse at term. The results have been compared with 100 cases having cephalic presentation at term.

Introduction

The main aim of the study was to observe the effect of implantation of placenta on axis polarity of the amniotic sac, thereby, to study the "Obstetrical Concept" called the "Theory of Accomodation", which in simple terminology states that implantation of placenta has its own clinical importance as it affects fetal presentation and fetal lie. Cornual implantation of placenta has been found to be the cause of failure of "External cephalic version" and retention of placenta or delayed third stage of labour. Fundal implantation with cord round the neck with cephalic presentation has been found one of the unavoidable causes of perinatal mortality. Right cornual and left cornual implantation of placenta have been found mostly in breech and persistent breech presentation. Implantation of placenta in midfundus and placenta pravia have been

found causes of unstable and transverse lie. Anterior and posterior wall of implantation of placenta is mostly found in cephalic presentation.

Material and Methods

Placenta was localized in 84 patients having breech, and persistent breech presentation and in 50 patients having transverse, oblique or unstable lie at term. The results were compared with 100 patients having cephalic presentation at term. Thus Group A consisted of 84 patients (breech). Group B, 50 patients of transverse and unstable lie and group C, 100 patients having cephalic presentation as control group.

1. Uterus was divided arbitrarily into segments (Fig. 1). Sonicaid blood flow Detector Model D 205 was used to pick up the "Placental Sound" and locate the placenta in a particular segment of the uterus. Placental scan was done by using

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red cell tagged technicium pertechnatate section or normal delivery by manual to confirm placental location. Later placental palpation of the uterine cavity before tal site was confirmed following caesarean separation of placenta.

TABLE I

Placental Relation in Breech and Persistent Breech Presentation in 84 Patients at Term

Mid fundal		Ant.* and posterior fundus		Right fundal cornual region ant.		Left fundal cornual region post.**		Mid ant. and mid posterior		Ant. and post. low lying		CPP***	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
—	—	4	4.7	47	47.6	35	41.6	—	—	—	—	5	5.9

* Ant. = Anterior.
 ** Post. = Posterior.
 *** CPP = Central placenta praevia.

TABLE II

Placental Relation in 50 Cases of Transverse, Oblique and Unstable Lie at Term

Mid fundus		Ant.* & Post.** upper half of fundus		Placenta praevia		Left cornual P.***		V+ Hernia		Sub-septate uterus	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
31	62	10	20	5	10	2	4	2	4	2	4

* Ant. = Anterior
 ** Post. = Posterior
 *** F = Fundal
 +V = Ventral

TABLE III

(Control Group)

Placental Relation in 100 Cases of Cephalic Presentation

Mid-fundus		Ant. & post lt. & rt. wall of uterus		Rt.* fundal cornual region Ant.		Lt.** fundal cornual region Post.		Mid. ant. + Mid post. walls		Low lying Ant. & Post.	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
12	12	3	6	—	—	2	2	46	76	4	4
		3						30			

* Rt. = Right
 ** Lt. = Left

TABLE IV
Significance of Implantation of Placenta in Group A and C

Implantation of placenta in the cavity of the uterus	Group A	Group C (control group)	Significance
1. Mid fundus	—	12%	P > .01
2. Placenta praevia	0.3%	4%	NS*
3. Left cornual region	41.7%	2%	P > .01
4. Anterior and posterior wall	—	76%	P > .01
5. Right cornual region	47.7%	2%	P > .01

* NS = Non significance

Implantation of placenta in the cavity of the uterus was significantly higher consisting of 47.7% and 41.7% (P > .01) in Right and Left cornual regions respectively in breech and persistent breech presentation as compared with Control group having cephalic presentation where implantation of placenta in anterior and posterior wall of the uterus was significantly higher (P > .01) consisting of 76%.

This shows placental site in the particular segment of the uterine cavity has got a definite role of fetal presentation.

TABLE V
Significance of Implantation of Placenta in Group 'B' and 'C'

Implantation of placenta in the cavity of the uterus	Group B %	Group C (control group) %	Significance
1. Mid fundus	62	12	P > .01
2. Placenta praevia	20	4	P > .01
3. Left cornual region	10	2	P > .05
4. Anterior and posterior wall of the uterus	—	76	P > .01
5. Right cornual region	—	2	P > .01

Implantation of placenta in the cavity of uterus was higher in mid fundus consisting of 62%, in lower segment 20% and in left cornual region 10% which is significantly higher (P > .01) as compared to cephalic control group having 76% of placenta in anterior and posterior wall of uterus which is significantly higher (P > .01).

Discussion

In the present study, site of placenta seems to have a possible role in changing the axis polarity of the amniotic sac and thereby effects the presentation of the fetus.

The placental implantation has been found to have determining effect upon the presentation of the fetus as observed in present group study, thereby proves the obstetrical concept called "Theory of

Accommodation" which states "At term or near term, when placenta is chiefly in the fundus or in the lower uterine segment, or in either cornual region of the uterus, thereby it obliterates the polarity of the sac, functionally the fetus accommodates itself to the shape of the sac. The foetal head seeking its smaller pole or curls up according to the shape of the sac". Titus (1950) also noted that placental site in uterus has a definite role in abnormal presentation.

In the present series it has been observed that when placenta is implanted in the fundus or lower segment of the uterus, it causes a considerable change in the shape of amniotic sac, in which the foetus lies, the horizontal and vertical length of the sac becomes practically the same and foetus tries to accommodate transversely in the longitudinal axis of the uterus easily. The incidence of transverse, oblique and unstable lie was found higher when implantation of placenta was in mid fundus and lower uterine segment consisting of 62% and 20% respectively.

Cornual fundal implantation was associated with breech and persistent breech in right and left cornual regions consisting of 47.7% and 41.7% respectively. Such segmental implantation of placenta was associated with delay in 3rd stage of labour and retained placenta in 5 cases. Similar observations have been made by Stevenson (1946). Again in anterior cornual fundal implantation external cepha-

lic version in breech presentation was unsuccessful in attempted cases. Repeat attempts or external cephalic version were avoided in such cases.

Apart from placental location, various other factors like extremedextro rotation, ventral hernia, and abnormal uterine cavity have been found additional mechanical factors to favour persistence of the abnormal presentation of foetus in 3 cases. Williams (1931) and Tompkins (1946) have recorded similar observations.

References

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See Figs. on Art Paper I, II