

Study of Incidence of Intra Amniotic Infections In The Preterm And Term Labour

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AIM OF THE STUDY:

To study the incidence of intra amniotic infections in the preterm and term labour with intact membranes and its effects on the fetus and the mother

PLACE OF STUDY:

Coimbatore medical college-Department of Obstetrics and gynaecology

PERIOD OF STUDY:

November 2016 to November 2017

STUDY POPULATION:

The study consists of 300 preterm and term labour patients. The prospective study was undertaken in 140 preterm labour patients with intact membranes to find out the evidence of subclinical intra amniotic infection, 160 term labour patients with intact membranes served as control.

I. INVESTIGATIONS

- 1) Hemoglobin
 - 2) Total WBC count
 - 3) Differential WBC Count
 - 4) Erythrocyte Sedimentation Rate
 - 5) Blood Grouping
 - 6) Urine for albumin sugar deposits and culture.
 - 7) Vaginal smear examination in the wet film, 10% KOH preparation, gram stain and high vaginal swab for culture
 - 8) Ultrasonography for the assessment of gestational age, cardiac activity, liquor pockets, placental localisation and to locate suitable site for amniocentesis.
 - 9) Amniocentesis to demonstrate intra amniotic infections. Transabdominal amniocentesis was done -Amniotic fluid gram stain and culture for aerobic and anaerobic microorganism were done on blood agar, MacConkey agar and thyoglycolate broth in the department of microbiology in Coimbatore medical college hospital
 - 10) Vaginal smear
- Specimen collection: Under aseptic precautions, with sterile speculum, high vaginal swab was taken for culture, concurrently vaginal smears are taken for detection of micro-organisms by wet film, 10% KOH preparation and for gram staining.

II. OBSERVATION AND ANALYSIS OF DATA

	Number
Study Group	140
Control Group	160
Total	300

The study consists of 300 preterm and term labour patients.

AGE DISTRIBUTION OF THE STUDY AND CONTROL GROUP

Ante Natal Care	Study Group		Control Group	
	N = 140		N = 160	
	N	%	N	%
Booked	121	86.4%	136	85.0%
Un Booked	19	13.6%	24	15.0%

DISTRIBUTION OF CASES ACCORDING TO GRAVIDITY

Gravidity	Study Group		Control Group	
	N = 140		N = 160	
	N	%	N	%
I	69	49.3	82	51.2
II	46	32.9	64	40.0
III	19	13.5	10	6.3
IV	6	4.3	4	2.5

GESTATIONAL AGE OF THE PATIENTS

Gestation Age In weeks	Study Group		Control Group	
	N = 140		N = 160	
	N	%	N	%
28 TO 33	31	22.1	-	-
34 TO < 37	109	77.9	-	-
>37 TO 40	-	-	160	100

INCIDENCE OF OTHER ASSOCIATED CONDITIONS WITH INTRAAMNIOTIC INFECTION

Associated Conditions	Study Group		Control Group	
	N = 140		N = 160	
	N	%	N	%
Vaginal Discharge	51	36.4%	32	20.0%
Urinary Tract Infection	24	17.1%	9	5.6%
Coitus	26	18.6%	13	8.1%
Gastroenteritis	3	2.1%	3	1.9%
Other Febrile Illness	3	2.1%	4	2.5%
No Symptoms	33	23.7%	99	61.9%

MICRO ORGANISMS PRESENT IN THE VAGINAL FLORA

	Study Group		Control Group	
	N = 140		N = 160	
	N	%	N	%
Gardnerella Vaginalis	39	27.9%	14	8.8%
Lactobacilli	30	21.4%	88	55.0%
Trichomonas Vaginalis	16	11.4%	18	11.2%
Candida	9	6.4%	11	6.9%
Group B streptococci	13	9.3%	7	4.4%
Diptheroid Bacilli	4	2.9%	9	5.6%
Staphylococci	8	5.7%	3	1.9%
Escherichia Coli	14	10.0%	4	2.5%
Proteus	3	2.1%	4	2.5%
Klebsiella	4	2.9%	2	1.2%

MICRO ORGANISMS IN THE URINARY TRACT INFECTION PATIENTS

Micro Organisms	Study Group		Control Group	
	N = 24		N = 9	
	N	%	N	%
Escherchia Coli	18	75.0%	6	66.7%
Klebsiella	2	8.3%	1	11.1%
Proteus	2	8.3%	1	11.1%
Pseudomonas	1	4.2%	-	-
Group B Streptococci	1	4.2%	1	1.11%

AMNIOTIC FLUID CULTURE

Amniotic Fluid Culture	Study Group		Control Group	
	N = 140		N = 160	
	N	%	N	%
Positive	41	29.3%	15	9.4%
Negative	99	70.7%	145	90.6%

MODE OF DELIVERY

Mode of Delivery	Study Group 140				Control Group 160			
	Amniotic Fluid Culture				Amniotic Fluid Culture			
	Positive		Negative		Positive		Negative	
	N = 41	%	N = 99	%	N = 15	%	N = 145	%
Vaginal Delivery	28	68.3%	84	84.8%	12	80.0%	131	90.3%
Forceps	4	9.8%	6	6.1%	1	6.7%	5	3.5%
LSCS	9	21.9%	9	9.1%	2	13.3%	9	6.2%

INDICATION FOR LSCS

Indications	Study Group 140				Control Group 160			
	Amniotic Fluid Culture				Amniotic Fluid Culture			
	Positive		Negative		Positive		Negative	
	N = 9	%	N = 9	%	N = 2	%	N = 9	%
Fetal Distress	6	66.7%	8	88.9%	1	50.0%	7	77.8%
Non Progression with acceleration of Labour	3	33.3%	1	11.1%	1	50.0%	2	22.2%

FETAL WEIGHT

Birth Weight in KG	Study Group 140				Control Group 160			
	Amniotic Fluid Culture				Amniotic Fluid Culture			
	Positive		Negative		Positive		Negative	
	N = 41	%	N = 99	%	N = 15	%	N = 145	%
2.6 to 3.6	-	-	-	-	13	86.7%	138	95.2%
2 Kg to 2.5 Kg	29	70.7%	92	92.9%	2	13.3%	7	4.8%
1.6 Kg to 1.9 Kg	12	29.3%	7	7.1%	-	-	-	-

NEONATAL MORBIDITY

	Study Group 140				Control Group 160			
	Amniotic Fluid Culture				Amniotic Fluid Culture			
	Positive		Negative		Positive		Negative	
	N = 41	%	N = 99	%	N = 15	%	N =145	%
Birth Asphyxia	6	14.2%	4	4.0%	2	13.3%	4	2.8%
Umbilical Sepsis	5	12.1%	1	1.0%	1	6.7%	-	-
Conjunctivitis	4	9.8%	-	-	1	6.7%	-	-
Superficial Skin Infection	1	2.4%	-	-	-	-	1	0.7%
Meconium Aspiration Syndrome	2	4.9%	1	1.0%	-	-	-	-

III. SUMMARY

Subclinical intra amniotic infection is an important cause for preterm labour. The prospective study was undertaken in 140 preterm labour patients with intact membranes to find out the evidence of subclinical intra amniotic infection, 160 term labour patients with intact membranes served as control. Sub clinical amniotic fluid infection was present in 29.3% in our study group and 9.4% in the control group. *Gardnerella vaginalis* was the commonest organism isolated in both the groups.

Majority of patients with amniotic fluid infection were of younger age, between 17 and 25 years and of primigravida than woman without amniotic fluid infection.

The cause of amniotic fluid infection are multifactorial. Vaginal infection being the commonest one. Bacterial vaginosis was three times more in the study group than in the control group.

Urinary tract infection was three times more frequent in the study group than in the control group.

History of coitus within 5 days prior to the labour was twice frequent in the study group.

Gram stain was simple, rapid and almost equally effective test in detecting subclinical intra amniotic infection. Whereas culture is the definitive test though it is laborious and time consuming.

There was 2.4 times increase in caesarean section rate in culture positive study group than in the culture negative group indicating that the incidence of caesarean section is common in intra amniotic infection.

In the indication for caesarean section, non progressive with acceleration of labour was three times common in amniotic fluid infected patients. This shows abnormal labour patterns are associated with intra amniotic infection.

Low birth weight neonates were common in the amniotic fluid infected patient in both the groups. Neonatal morbidity was 43.3% in the amniotic fluid infected group and 6% in the non infected group.

Neonatal morbidity was 7.3% in the amniotic fluid culture positive study groups. There was no neonatal mortality in the control group.

There was no maternal mortality.

maternal morbidity was less frequent than neonatal morbidity. it was 19.5% in the culture positive group compared to 2% in the culture negative group.

IV. CONCLUSION

Intra amniotic infection is an important obstetric problem. Sub clinical intra amniotic infection is a significant predisposing factor for preterm labour.

Successful pregnancy outcome depends not only on the uncompleted labour but also on the delivery of a mature healthy neonate. From this study subclinical intra amniotic infection can be a factor predisposing to preterm labour, low birth weight, increased neonatal morbidity, mortality and maternal morbidity.

Hence early detection and treatment of these infections during regular antenatal checkups may prevent the occurrence of intra amniotic infection. Maintenance of nutritional status of the patient at optimum level will improve the general health and immune status of the woman. Knowledge about personal and local hygiene are some measures which help in bringing down the incidence of intra amniotic infection.

These measures may prolong the pregnancy to term leading to delivery of a healthy mature neonate with minimal untoward effects on the neonate and the mother.

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