

# PROPHYLACTIC ANTIBIOTICS AND POST ABORTAL SEPSIS

By

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## SUMMARY

The present study of 100 cases was carried out at the State Zanana Hospital, S.M.S. Medical College, Jaipur to evaluate prophylactic value of antibiotics in the prevention of post abortal sepsis by determining the pre and post abortal vaginal bacterial flora and there antibiotic sensitivity in the patients undergoing medical termination of pregnancy. The cases were divided into two groups A and B, each having 50 patients. Group A (antibiotic group) patients received prophylactic antibiotic, while in group B (Control group) no prophylactic antibiotic was used. Bacteriological studies were done in all cases by culture and sensitivity of high vaginal swabs both pre and post abortally. The incidence of sepsis in the antibiotic group was 4% as compared to 12% in the control group, there by revealing the significance of prophylactic antibiotic coverage in minimising the incidence of post abortal sepsis without adversely affecting the maternal health.

### Introduction

With liberalization of abortion since April 1972 large scale electively induced abortions are being carried out in our country and the problem of post abortal sepsis has gained paramount importance. Despite improved methods of induction of abortions and precautions observed, the cases are still seen with gross sepsis resulting in serious morbidity and often mortality. This is specially observed in cases treated outside hospitals by untrained personnel or at places with limited facilities. As long as post abortal infection continues to be a problem of major

significance, studies of its etiology and prophylaxis are of fundamental importance. Very few studies are so far on record regarding pre and post abortal bacteriological growth pattern in vagina in cases undergoing medical termination of pregnancy and not many workers have studied its relationship to post abortal sepsis. In the present study an attempt has been made to study 100 cases who underwent medical termination of pregnancy (MTP) at the state zanana hospital Jaipur. The vaginal bacterial flora were studied pre and post operatively and data were analysed with particular reference to development of post abortal sepsis. Also the present study includes evaluation of role of prophylactic antibiotics in prevention of post abortal sepsis.

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### Material and Methods

The study includes 100 cases admitted at the state zanana hospital, S.M.S. Medical College, Jaipur, for MTP. Alternate cases were put in group A & B. Group A consisted of 50 cases where Inj. streptopenicillin 1 gm. daily for 4 days was used as prophylatic antibiotic in cases of MTP with concurrent sterilization while Inj. penidure LA-12 single stat dose was used in plain MTP cases. Group B consisted of another 50 cases (selected randomly) of MTP, where no prophylatic antibiotics were used. In cases who developed evidence of post abortal sepsis, antibiotics were given therapeutically depending on their culture and sensitivity reports of high vaginal swabs. High vaginal swabs were collected in all cases preoperatively and on 4th day post operatively and were sent for bacteriological culture and sensitivity. Cases less than 12 weeks of gestation underwent dilatation and suction evacuation and those more than 12 weeks of gestation had extra-ovular instillation of hypertonic saline, or Emacridyl, or hysterotomy, depending upon individual decision.

### Observations and Discussion

In spite of all the advanced methods of induction of abortion and precautions observed, the cases still are seen with gross sepsis resulting in serious morbidity and often mortality.

Of the 100 cases of normal pregnancy which were aborted in the hospital, 8 cases of sepsis occurred during the post abortal period giving an incidence of post abortal sepsis as 8%. Apparently it can be considered to be high when compared with 4.2% and 5% reported by Sen Gupta *et al* (1976) and Agarwal (1978) respectively but prophylatic broad spectrum antibiotics (Inj. S.P.) were used by Agarwal in all cases. In our study prophylatic antibiotics were used only in 50% of the cases.

Regarding incidence of sepsis in relation to period of gestation, method of induction, induction abortion interval and amount of blood loss—80% of cases were up to 12 weeks of gestation and 20% were between 13 to 20 weeks of gestation with 2.5% and 30% sepsis rate in the two groups respectively, showing thereby that development of sepsis was related to termination at higher period of gestation (Table I). The average induction abortion interval in the cases of sepsis in the 2nd trimester of MTP was 47.2 hours as compared to 35.1 hours in the cases without sepsis. Our findings are in agreement with those of Mishra and Gupta (1978) and Gupta *et al* (1976). The average amount of blood loss in cases with sepsis was 86.6 ml. as compared to 27.9 ml. in cases without sepsis. thereby indicating that blood loss also seems to predispose the patient for the development of sepsis.

TABLE I  
Gestational period in relation to sepsis

Gestational period in weeks	No. of cases	%	Sepsis	
			No. of cases	%
6-8	40	40	2	2.5
9-12	40	40		
13-16	8	8	6	30
17-20	12	12		

Results of pre and post abortal high vaginal swab culture and sensitivity in relation to post abortal sepsis-show that an important cause of post abortal sepsis would be infection of the genital tract. In 100 cases of MTP the total No. of pre abortal and post abortal high vaginal swab cultures was 200. There were 55% (110) positive cultures and 45% (90) negative cultures. (Table II). 32% of the 100 cases did not harbour any organism pre abortally but had pathogenic growth post abortally. There were 31% patients who remained pathogen free both pre and post abortally. In 12% the pathogenic organisms grown were identical both pre and post abortally while in 24% the pathogenic organisms were different pre and post abortally. Only in 1 case the post abortal culture was sterile inspite of the fact that pre abortal culture showed pathogenic organism (Table III).

63 out of 100 patients belonging to this study did not harbour any organism in their vagina at the commencement of the study while only 27 had sterile post abortal cultures (Table IV). Agarwal (1978) reported 34% sterile high vaginal swab cultures pre abortally whereas Sen Gupta *et al* (1976) reported the incidence of sterile pre-abortal cultures as 11.1%. In 6 out of 8 cases of post abortal sepsis the causative bacteria were not present in the pre-abortal genital tract and must have been acquired at or after abortion, thus denoting exogenous source of infection. In 2 cases, organisms responsible for sepsis were present in the genital tract before abortion thereby indicating endogenous source of infection.

The commonest complication observed was lower abdominal pain and tenderness (10%) in the immediate post abortal peperiod. The complication of post abortal pyrexia was evidenced in 7% of the cases. In one case there was transient hypotension due to excessive bleeding because of retained placenta while one other case had iatrogenic fundal perforation during the procedure (Table V). There was no maternal death. The complication rate reported by Mishra *et al* (1978) was utenine perforation (0.62%),

TABLE II  
High vaginal swab cultures in 100 cases of MTP

No. of cultures	200	
Cultures with no growth	90	45%
No. of cultures with positive findings	110	55%
No. of cultures with one organism	97	88.2%
No. of cultures with multiple organisms	13	11.8%

TABLE III  
Results of high vaginal swab cultures in 100 cases of MTP

Sub-group	No. of cases	Percentage
I Cultures sterile pre-abortally but not post abortally. (exogenous Infection)	32	32
II Cultures sterile both pre-abortally and post-abortally	31	31
III Pathogens same pre and post abortally	12	12
IV Pathogenic organism different pre and post abortally	24	24
V Pathogenic organism isolated pre-abortally but sterile post abortally	1	1

TABLE IV

Presence of pathogens and pyrexia in relation to prophylactic use of antimicrobial agents

Pre- Abortal	Total No. in the group	Group		Post Abortal			
		Pathogens positive	Pathogens Negative	Apyrexial Patho.		Pyrexial Patho.	
				+ve	-ve	+ve	-ve
(A) Antibiotic group	50						
1 P.L.A.—12	30	8	22	20	8	2	—
2 S.P. 1 gm.	20	12	8	16	4	—	—
(B) Control group	50	17	33	29	15	6	—
(No antibiotic group)							

haemorrhage (0.33%), laceration of cervix and muscle wall (0.27%) partial detachment of cervix (0.05%), tear of the posterior vaginal wall (0.11%) and death (0.11%).

TABLE V

Showing rate of complications in 100 cases of MTP

Complications	Percentage
Post abortal pyrexia	7
Retained Placenta	6
Haemorrhage	5
Haemorrhage with shock	1
Perforation of uterus	1
Lower abdominal pain and tenderness	10

### Conclusion

To conclude the above study indicates that if medical termination of pregnancy

is performed under strict aseptic conditions and with prophylactic antibiotic coverage by trained medical personnel, the danger of morbidity is negligible and that of mortality is nil due to sepsis. The sepsis rate could still be reduced further if the selection of prophylactic antibiotic was made according to the pre abortal bacterial culture and sensitivity tests rather than administering a single antibiotic in all cases ignoring the results of culture sensitivity.

### References

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