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**CLINICAL EXPERIENCE WITH INTRAPERITONEAL
ADMINISTRATION OF METRONIDAZOLE (ANAERID)
IN OBSTETRICAL AND GYNAECOLOGICAL SURGERY**

By

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SUMMARY

This study includes 100 cases in trial group in whom intraperitoneal instillation of metronidazole (Anaerid) was done with 100 control cases in whom it was not instilled. All cases had routine antibiotics post operatively. Critical evaluation of records for postoperative complications was done. High incidence of infections as well as prolonged hospital stay was found in control group as compared to study group.

Introduction

It is now well established that metronidazole has an universal bactericidal effect against anaerobic organisms. There are many reports of prophylactic use of metronidazole in obstetrics and gynaecological surgery (Willis *et al* 1974; Chakraborty *et al* and Addy *et al* 1978). The usual route of metronidazole administration is either oral or intravenous. The following trial of intraperitoneal administration was conducted to see the efficacy of metronidazole in prevention of postoperative complications in obstetric and gynaecological surgery.

Material and Methods

The study was conducted at Kasturba Hospital, MGIMS, Sevagram in the department of Obstetrics and Gynaecology from June 1984 to December 1985. Of the 200 cases, 100 cases were included

in trial group with 100 cases as control. Out of 100 cases in trial group, 75 cases were obstetric patients requiring caesarean section with prolonged rupture of membranes and 25 cases requiring different abdominal gynaecological surgery for routine as well as emergency indications. In these 100 cases of trial group intraperitoneal instillation of metronidazole (Anaerid) in single dose of 500 mg (100 ml) was done at the end of surgical procedure before closing the peritoneum. Post-operatively injections of penicillin and streptomycin were given. An identical group of 100 cases, comprised of 75 obstetrics and 25 gynaecological cases were taken where intraperitoneal instillation of metronidazole was not done. These cases also received post-operatively above antibiotics. In cases where infections developed, the antibiotic was changed depending on the sensitivity reaction of aerobic culture.

Observations

Indications of surgery in obstetrics cases are shown in Table I. Out of 75 cases of trial group 2 cases had rupture

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of the uterus in whom hysterectomy was done. In trial group febrile morbidity (temperature $> 38^{\circ}\text{C}$), abnormal discharge from wound occurred in 13.3% and 13.3% as compared to control in 40% and 40% cases respectively (Table II). The complications like burst abdomen, paralytic ileus, pelvis or generalised peritonitis were not seen in trial group, while such complications were seen in 2.6%, 9.3%, 2.6% and 1.3% in control group respectively. The hospital stay was prolonged in 5.3% cases of trial group as compared to control in 40%. The necessity to change antibiotics was done in 8% of cases in trial group as compared to control in 40% of cases. There was one maternal death in control group due to irreversible shock on the 1st day of operation.

TABLE I
Indications of Caesarean Section in Obstetric Cases

Indications	Trial group	Control group
Obstructed Labour	19 (25.3%)	17 (22.6%)
APH	4 (5.3%)	4 (5.3%)
Failed trial	6 (8.0%)	11 (14.3%)
Previous LSCS	11 (14.6%)	15 (20.0%)
Miscellaneous	33 (44.0%)	28 (37.3%)
Ruptured Uterus (Hysterectomy)	2 (2.6%)	—
Total	75	75

TABLE II
Post Operative Complications in Obstetric Cases

Complications	Trial group (75 cases)	Control group (75 cases)
1. Fever exceeding 38°C	10 (13.3%)	30 (40.0%)
2. Discharge from wound	10 (13.3%)	30 (40.0%)
3. Gaped wound	1 (1.3%)	15 (20.0%)
4. Burst abdomen	—	2 (2.6%)
5. Paralytic ileus	—	7 (9.3%)
6. Pelvic peritonitis	—	2 (2.6%)
7. Generalised peritonitis	—	1 (1.3%)
8. Hospital stay >10 days (for maternal complication)	4 (5.3%)	30 (40.0%)
9. Maternal death	—	1 (1.3%)



Fig. 1. Bicornuate uterus demonstration on abdominal examination.



Fig. 2. Caesarean section in breech presentation.



Fig. 3. Bicornuate uterus in caesarean section.



Fig. 4. Alive male child delivered by breech caesarean section.

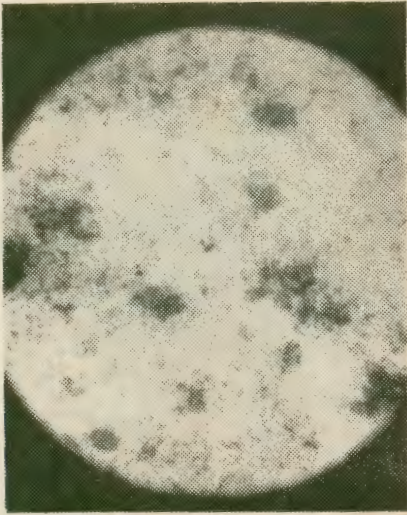


Fig. 1

Microphotograph of cytopathological smear of proliferative endometrium.



Fig. 2

Microphotograph of cytopathological smear of secretory endometrium.

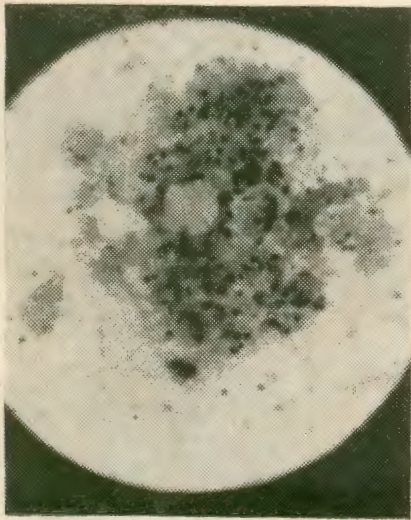


Fig. 3

Microphotograph of cytopathological smear of endometrial hyperplasia.

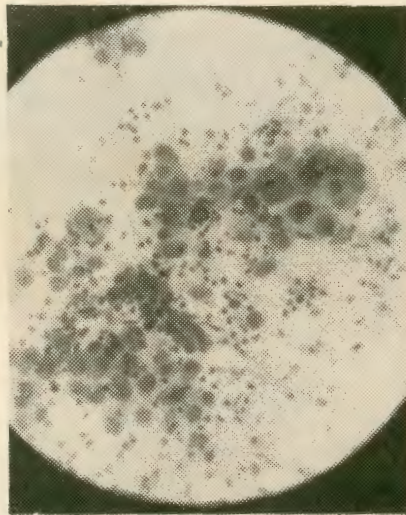


Fig. 4

Microphotograph of cytopathological smear of malignancy of uterus.



Fig. 1

Photograph showing woman with extensive burn injury of chest wall.



Fig. 2

Photograph showing milk discharge from nipples.

Case Report of Vaginal anus—Sholapurkar et al p. 312



Fig. 1

Showing vaginal anus with sphincter and lateral episiotomy.

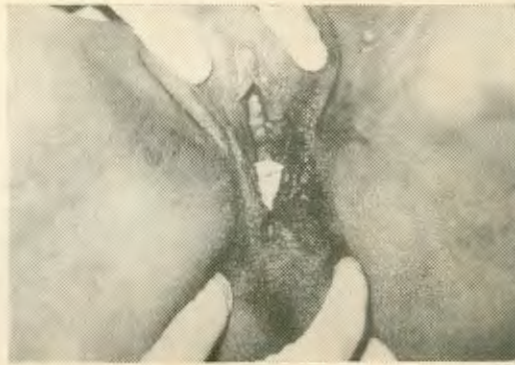


Fig. 2

Absence of anal opening in normal situation coin put in vaginal anus.

FINDINGS AT LAPAROTOMY

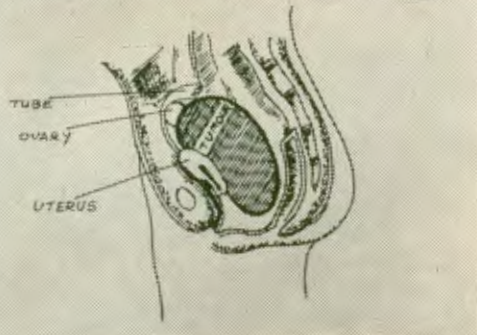


Fig. 1

Schematic representation of laparotomy finding.

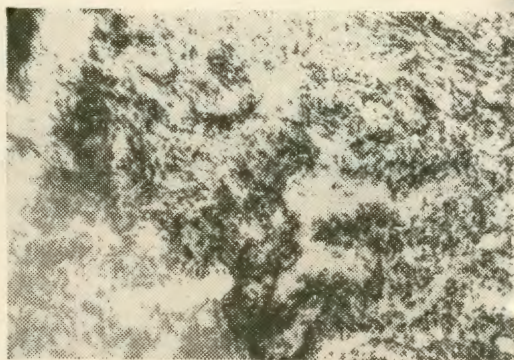


Fig. 2

Microphotograph showing neurilemma with cystic degeneration.

Cervical perforation and displaced Cu.T.—Anita Kant & Kochar p. 312



Fig. 1

X-ray pelvis showing Cu T lying horizontally within the pelvis.

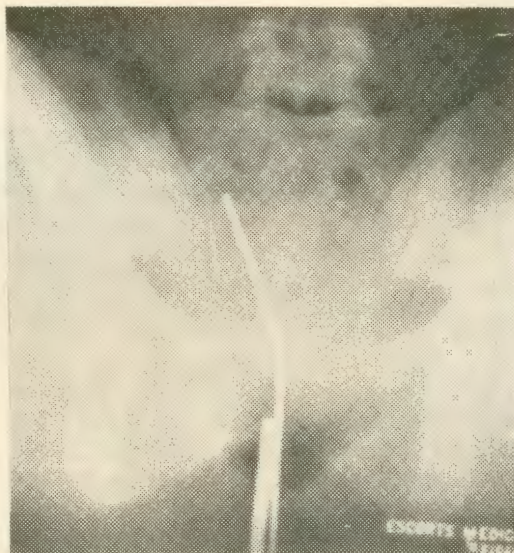


Fig. 2

Second X-ray taken with uterine sound in position shows that the Cu T is lying vertically (upside down) and by the side of the uterine sound.



Fig. 1

Absence of uterus, both ovaries, smaller than normal size. Bladder shadow visible.

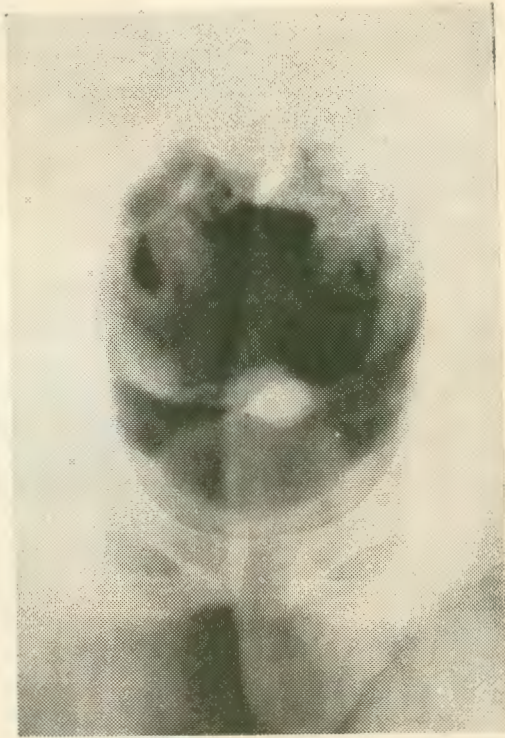


Fig. 2

Small uterus with small ovaries.

Undue Length of Umbilical Cord—Sengupta p. 311

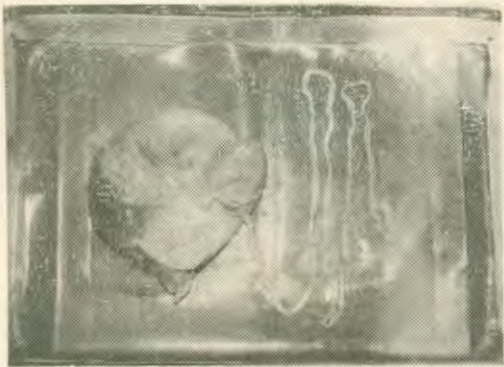


Fig. 1

Photograph of umbilical cord 90 cm long.

Primary Carcinoma of fallopian tube—Raksha Arora et al p. 314

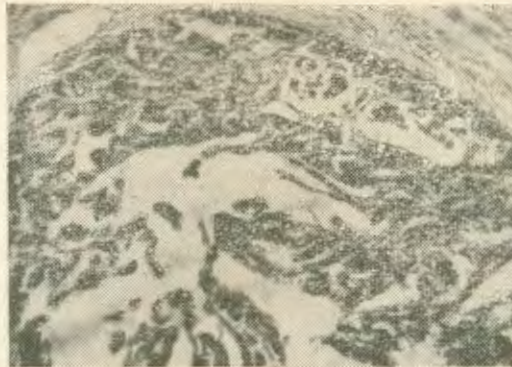


Fig. 1

Micro section from the fallopian tube shows that the lining epithelium is replaced by papillary processes crowding towards the centre of lumen, Muscular wall shows occasional islands of malignant cells.



Fig. 3
Calcified fibroid.

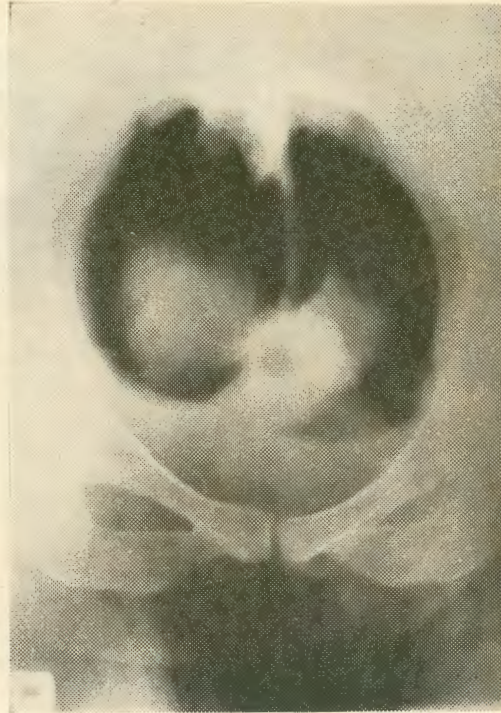


Fig. 4
Polycystic ovaries.

Arrhenoblastoma of Ovary—Sarojini Devi et al p. 315

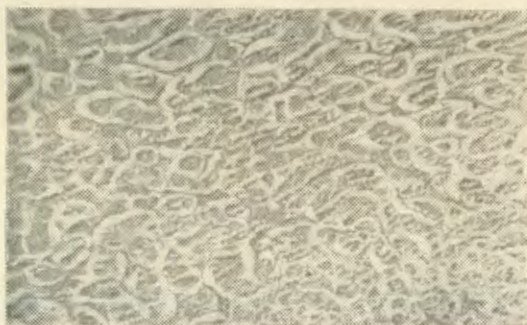


Fig. 1
Microphotograph sertoli cells which were well
differentiated.

Type of surgery in Gynaecological cases is shown in Table III. Analysis of Gynaecological cases has shown that febrile morbidity, gaping of wound was seen in 16% and 4% respectively in trial group while the same complications were seen in 60% and 16% cases respectively in control group. Complications like abnormal discharge from wound, pelvic peritonitis was not seen in trial group but such complications was seen in 48% and 12% of cases respectively in control group. The hospital stay was more than 10 days in 40% of control as compared to 8% in trial group cases (Table IV).

done as compared to group of cases where it was not done. Similar findings in obstructed labour and ruptured uterus cases have been reported by Dubay and Kapoor (1984). Though all obstetric cases were of prolonged labour with ruptured membranes for more than 24 hours, there was no increase of morbidity. The rate of infection was very less in gynaecological group of cases as these cases were free of infection prior to operation. In gynaecological cases complication like abnormal discharge from wound and pelvic peritonitis was not seen at all.

Thus, the above findings suggest that

TABLE III

Type of Operation in Gynaecological Cases

Operation	Trial group	Control group
Abdominal hysterectomy	18	12
Wertheim's hysterectomy	2	—
Laparotomy for ectopic pregnancy	3	3
Ovarian cyst removal	2	7
Removal of hydrosalpinx	—	1
Laparotomy for sterility (Estes operation)	—	1
Total	25	25

TABLE IV

Post Operative Complications in Gynaecological Cases

Complications	Trial group (25 cases)	Control group (25 cases)
Fever exceeding 38°C	4 (16%)	15 (60%)
Abnormal discharge from wound	—	12 (48%)
Gaped wound	1 (4%)	4 (16%)
Paralytic ileus	—	3 (12%)
Hospital stay >10 days	2 (8%)	10 (40%)

Discussion

Analysis has shown that there was definite decrease of complications like fever, abnormal discharge from wound and gaped wound where intraperitoneal instillation of metronidazole (Anaerid) was

this route of administration in single dose of metronidazole in quite effective in decreasing morbidity and cost of hospital stay. We believe the reduction of complications achieved by intraperitoneal instillation of metronidazole is due to bactericidal action of the drug against anaerobes.

References

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