

CHANGING TREND IN THE MANAGEMENT OF INCOMPLETE ABORTION

by

KAMALA ACHARI*, M.S., M.R.C.O.G.

and

WAZIRA KHANAM, M.B., B.S.

Incomplete abortion offers one of the most serious problems in therapy. Studdiford (1939) wrote "the treatment of incomplete abortion is a subject of controversy" and after 26 years, even with the discovery of powerful antibiotics and blood transfusion, the treatment of incomplete abortion still awaits an agreed solution. In incomplete abortion bleeding and secondary infection pose a real threat to the health of the patient and the control of these two complications has occupied the attention of the physicians and midwives for the past 250 years. Haemorrhage, the more dramatic complication of abortion, attracted early attention. During the sixteenth and seventeenth centuries concentrated effort was used to control haemorrhage, the aspect of infection being completely neglected.

This was the state of affairs at the birth of gynaecology in 1875. As knowledge of the anatomy of the uterus became known curettage for incomplete abortion became popular; however, this promptly controlled haemorrhage but increased the rate of sepsis. This again started the age-

old controversies, whether control of infection or control of haemorrhage should have the priority in treatment of this common condition.

By 1900, two schools of practice had developed in the management of incomplete abortion. The medical approach utilized primarily oxytocics, bed rest, and supportive therapy. This predisposed the cases to a somewhat greater blood loss but helped to diminish the incidence of sepsis. The surgical approach, with aggressive curettage on the other hand, promptly controlled bleeding but resulted more frequently in the serious complication of sepsis. It appeared that the control of haemorrhage and the avoidance of sepsis could not be accomplished simultaneously. Both schools of thought exhibited large series of cases and each claimed superiority for its method of management.

A sound concept of the control of postabortal sepsis was laid by Hofbeuer who, in 1926, described the development of a protective biological barrier in the broad ligament consisting of leucocytes and exudates which occurs at the end of 3 days, bringing credence to the belief that the uterus, in infected abortion should not be

*Lecturer in Obstetrics & Gynaecology,
P. W. Medical College, Patna.

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curetted for some 72 hours, in order to allow the formation of this body defence mechanism.

During the second quarter of the twentieth century, the concept of medical management became dominant and was generally accepted. Even the introduction of the sulfonamides and antibiotics tended to enhance the precepts of the "deferred" school. Such eminent clinicians as Bubis (1934), Schumann (1950), Reis (1941), Greenhill (1945), Beck (1947) in America, and Keller (1950), Browne (1950), in United Kingdom, supported the view of non-intervention except in cases of excessive haemorrhage. The concept of primary medical management of infected incomplete abortions was clinically well established, leaving intra-uterine manipulations until the infection had been completely controlled.

In contrast to this wide-spread use of medical regimen a small number of physicians continued to advocate the early curettage of incomplete abortions and good results were reported by Cortson and Stallworthy (1947), Stallworthy (1948).

The Present Series:

The results of the treatment received by 240 consecutive cases of incomplete abortion, admitted to Patna Medical College Hospital during the last 2 years (1962-1963), have been analysed and are here presented for consideration. The records in this Institution shows that, prior to 1957, incomplete abortion with infection was managed on conservative lines unless severe haemorrhage forced an immediate curettage. Ordinarily

curettage was postponed until all evidence of sepsis had been absent for a period of 120 hours. This necessitated a long period of hospitalisation. A policy of more active form of treatment was advocated subsequently unless there was definite contra-indication like marked sepsis. The results of these 240 consecutive cases (1962-1963) are presented and the results compared with those of 1955-1956 when conservative line of treatment was more prevalent.

The series has been classified into:

Group I—Incomplete abortion without any sign of infection.

Group II—Incomplete abortion with infection. The incomplete abortion with infection has again been sub-divided for purposes of analysis and comparison of treatment into three types according to the criteria laid down by Burnett (1952).

Type I—In this there may be rise of body temperature (99°F or more) which is maintained for 24 hours with a sub-involuted tender uterus.

Type II—There is spread of infection with evidence of inflammatory changes in the fallopian tubes, ovaries, pelvic peritoneum or parametrium. Clinically it is evidenced by marked rise in body temperature, tender adnexal swellings, thickening of the parametrium, with tenderness on palpation of the pelvic peritoneum.

Type III—The infection has become extra-pelvic and may lead to generalised peritonitis. Septicemia and pyaemia may also occur.

Treatment of Group I:

These patients had a history of expulsion of part of the products of conception 12-24 hours earlier. Ma-

majority of them were admitted to the hospital in a condition of shock due to profuse bleeding, and were seldom in a condition to undergo any operative interference. Primary attention was given to resuscitation of the patient.

Immediately on admission infusion of 5% glucose saline was started. Blood transfusion was given as soon as it was available. As soon as the blood pressure became 90/60 mg./Hg, the patient was gently examined. Any part of the products of conception found lying in the vagina or cervical canal was removed with ovum forceps. As a prophylactic measure crystalline penicilline $\frac{1}{2}$ million unit 4 hourly and streptomycin 1 gm. daily was started immediately after admission. Curettage was usually done under anaesthesia 12-24 hours later.

There is not much of controversy about the management of this type of cases. Most of the authorities agree to this standard form of treatment.

Treatment of Group II:

Type I:—

As soon as the patient was admitted, an accurate medical, obstetric and gynaecological history was taken and a general examination made to estimate the degree of anaemia and pyrexia. Any extra-genital cause for pyrexia was excluded. The abdomen and pelvis were then examined and the diagnosis confirmed. A curettage was usually done within 12-24 hours in all cases of this type of incomplete abortion. Surgery was not delayed in any of the cases because of fever provided there was no extra-uterine infection. We have not come across

a single case in this group which required immediate evacuation due to excessive haemorrhage.

All cases of abortion of this type who were treated by us on this regime, from January 1962 to December 1963, are compared with those who were treated from January 1955 to December 1956, where the treatment of incomplete abortion was essentially conservative. Table I presents the number of different types of cases in both the conservative and active series.

TABLE I
No. of Cases of Incomplete Abortion in the Active and Conservative Series

	Conser- vative series (1955-56)	Active series
Group I	30	120
Type I	50	106
Type II	4	8
Type III	2	6

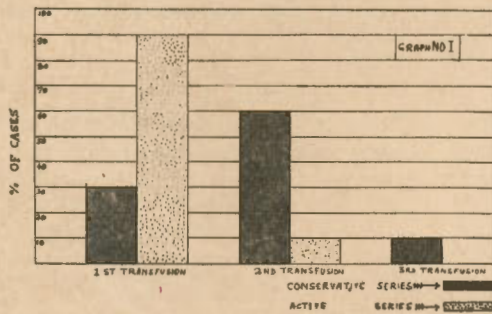
In an attempt to evaluate the new regime of active treatment several factors were considered (1) conservation of blood (2) control of infection (3) average duration of hospital stay.

TABLE II
Clinical Comparability of Two Series of Cases

Clinical data total	Conservative series	Active series
Average age	26.0	27.5
Average parity	5.4	3.0
Average number of abortions	1.12	1.15
Average number of days of complaint before admis- sion	10.2	6.3

Table II indicates the clinical comparability of both groups. There was not much difference in the age and parity of the patient. The average duration of gestation in both the series was almost the same. The patient's attendance for treatment in the conservative series was a little later than of those attending in the active series.

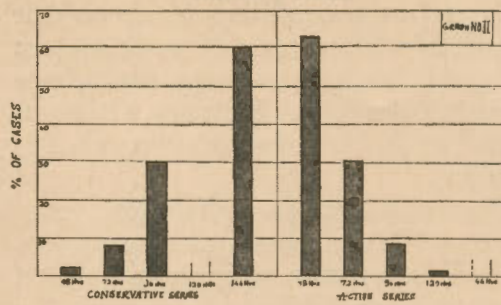
BLOOD TRANSFUSION



An evaluation of the effect of active form of therapy on blood loss is shown in graph I. In the conservative series 60% of cases required blood transfusion twice and 10% required transfusion only once. Blood transfusion of 300 cc. was required in the majority of the cases during curettage. In the active series once the curettage was done, bleeding was effectively controlled and there was no need for subsequent transfusion; only 9.5% of cases required a second transfusion due to severe anaemia and low grade pyrexia which did not subside because of poor resistance of the patient.

Graph II indicates pyrexia of the patient after admission the second factor to be evaluated for proper comparison of the efficacy of active treatment with that of conservative series.

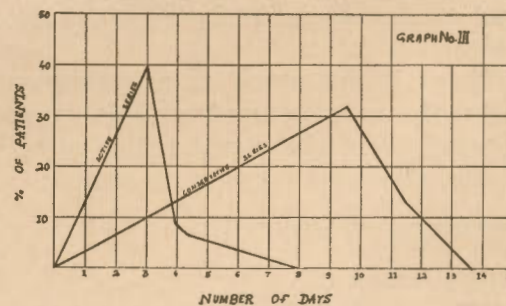
DURATION OF PYREXIA



Fever remained for 144 hours after admission in 60% of the cases in the conservative series while in 60% of the other series the fever was maintained for less than 48 hours.

The third point is the duration of hospitalisation of the patient in both the series. Graph III indicates the

DURATION OF STAY IN HOSPITAL



average duration of hospitalisation of these patients. The average duration of stay in the hospital in conservative series was 10 days while in the other series it was 3 days. It can be seen that for all the patients of this group, regardless of whether they were febrile or not, the hospital stay was reduced by 75% by aggressive management.

Type II—There were 8 cases in this group. In none of these was there sufficient bleeding to warrant immediate surgical procedure. In

these patients there was spread of infection to the pelvic cellular tissue, with presence of salpingo-oophoritis and pelvic peritonitis. As soon as they came, a detailed history was taken. A general examination was first made to exclude the other causes of pyrexia. Total and differential count of leucocytes was made, urine was collected and tested for the presence of infection. They were managed on conservative line of treatment.

In treatment of this group of cases, the principle involved is prevention of bacterial spread and control of bacterial growth. The infection had already spread to the parametria and adnexae. In the circumstances any intra-uterine manipulation would generalise it. These cases fortunately do not demand any surgical interference. In 8 of this type of cases in the active series and 4 in the conservative series there was not a single case where haemorrhage was excessive enough to demand surgical treatment. Even oxytocic drugs were not necessary. Crystalline penicillin 10 lacs 4 hourly and streptomycin 1 gm. daily was given. If the pyrexia did not subside with penicillin and streptomycin within 48 hours, higher antibiotics were usually started.

Maintenance of the defence reactions of the body was done by high protein diet, and as most of the cases were anaemic due to prolonged bleeding, small and repeated transfusions of 150 cc. of blood were usually given every alternate day. None of these cases required surgical treatment. This group of cases was best treated on conservative lines. There was no mortality in this series.

Type III—In these patients generalised infection had occurred with peritonitis. They were treated in the same way as Type II cases, but at least 7 pints of fluid was given daily by intravenous route in the form of 5% glucose 5 pints, and 2 pints of normal saline. A Ryle's tube was passed for gastric suction. Parenteral higher antibiotics (Reverin 250 mg.) were given twice daily. Highest mortality rate was noted in this group of cases. Of the 6 cases in this group, two died of generalised septicaemia and 2 in the earlier conservative series were lost due to hyperpyrexia and peritonitis.

When patients of Types II and III responded to treatment and felt fit for discharge from the hospital, they usually had an enlarged uterus and thickened adnexae. They were re-examined after 3 weeks and if resolution had not occurred they were again given a course of antibiotics with dexamethosone. Four cases of Type II required total hysterectomy and bilateral salpingo-oophorectomy due to persistence of pelvic inflammatory disease.

In Types II and III every case in both the series was treated on conservative lines. Even Studdiford (1950), who advised active line of treatment in septic abortion, advocated conservative treatment where infection had become extra-uterine.

Mortality

During these last two years 2 patients of septic abortion died giving a mortality of 0.8%. The mortality was exclusively in the Group II Type III cases who were admitted with generalised peritonitis.

Discussion

The main controversy in the management of infected abortion lies between the interventionist school, who advise immediate evacuation of retained products of conception from the uterus in most cases, and the non-interventionists, who postpone operation until later in the course of the illness and avoid it altogether if they possibly could. Although this problem has been deprived of much of its urgency by the advent of powerful antibiotic drugs which produce good results when used in conjunction with either form of treatment, it is still desirable to determine which is the better line of treatment. Corston and Stallworthy (1947) and Stallworthy (1948) emphasized the aggressive management of incomplete abortion. In their series of 800 cases where aggressive management of incomplete abortion was done, there was only one death, and that was in a case who had aborted incompletely one month previously. Fitzgibbon (1947) challenged the aggressive line of treatment. He advocated the control of infection first and if necessary emptying the uterus after the temperature was controlled for 5 days. He was supported by Ramsay (1949). According to Ramsay (1949) the retained products which are left in situ, either passed naturally or may to some extent be liquified and pass in the lochia. In his analysis of results of 10 years he found that only 8% of the cases required removal of retained products under general anaesthesia and 92% recovered without intra-uterine manipulation. His patients remained in the hospital for ten to twelve days. He has not men-

tioned whether many repeated transfusions were necessary; neither has he pointed out the number of days the pyrexia remained in his series where routine non-intervention was the rule. Burnett (1952) followed a midway policy. He analysed 267 cases of septic abortion where he divided them into three groups. In type, I where the maximum controversy occurs as to the place of surgical treatment, he found that surgical evacuation of uterus under general anaesthesia was necessary in 93% of the cases. In his analysis he found that if operation was performed in the presence of sepsis there was spread of infection in 50% of the cases. But he advocated surgical interference within 24 hours after the temperature had touched normal, as against Browne (1951) who advised afebrile condition of 5 days before operating. Studdiford (1950) analysed 1240 cases of incomplete abortion subjected to active treatment and 7184 cases given conservative treatment and found that mortality was high under conservative treatment.

In none of these series had they analysed the duration of pyrexia and the number of days of hospitalisation, which latter has become a problem of very high magnitude, as every hospital has to run a very crowded programme in this state and hospitalisation of one single patient for more than two weeks becomes a problem.

There is no controversy over the management of incomplete abortion in group I, where the management is essentially surgical. But in cases of incomplete abortion which have become infected, and the infec-

tion is localised in the uterus, the treatment still remains controversial. With this point of view 50 cases of incomplete abortion treated in 1955 and 1956 when the treatment was essentially conservative and 106 cases where active interference was done in Type I cases were analysed. Comparison of Graphs I, II and III show that active line of treatment is superior to conservative line of treatment in all its aspects i.e. blood loss, pyrexia, and duration of stay in the hospital in Group II Type I cases. In cases where extrauterine spread had occurred like in Group II Types II and III the conservative line of treatment gave the best results.

Conclusion

The successful result from the active form of therapy appears to substantiate our belief that early curettage is not only effective in controlling the slow and steady haemorrhage, but is effective in reducing the duration of fever and stay in the hospital in infected abortions where infection is limited to the uterus as also to the patient's advantage both from social and economic point of view. The comparison of the two series shows that there is no increased morbidity in the post-operative period in the aggressive form of treatment. If one awaits subsidence of the temperature the slow and steady haemorrhage would mean repeated transfusions. The patients who had been treated actively had comparatively a shorter stay in the hospital. They did not require repeated transfusions; they were discharged on the 3rd or 4th day of admission. There was no general spread of infection where ac-

tive line was instituted in spite of pyrexia in any of the cases. Of course it must be admitted that most of the badly infected cases, Types II and III, require to be treated conservatively.

Summary

(1) Historical aspect of the management of incomplete abortion is reviewed.

(2) Two hundred and forty cases of incomplete abortion who had active line of treatment are compared with 86 cases who had conservative treatment.

(3) The active line of treatment in the infected abortion where infection is limited to the uterus is proved to be better than the conservative treatment.

(4) The duration of hospital stay is reduced by 50%. Blood loss is minimised, therefore repeated transfusion was reduced by 50%. The duration of pyrexia was reduced by 50%.

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