

A Thousand Cases of Abortion

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MATERNAL mortality and morbidity have been the subject of many investigations during the past few years, but little attention has been paid to the factor of abortion, which is responsible for a considerable part of that mortality and morbidity. The importance of the subject may be appreciated when it is realized that about 3,000 cases of abortion are treated yearly in the general hospitals of the London County Council,¹ forming about two per cent of the total admissions,² and that in 1933 the deaths attributed to abortion in England and Wales numbered 463, of which 257 were notified as due to post-abortal sepsis. These 257 cases formed 24.2 per cent of the total deaths from puerperal sepsis.³

The 1,000 cases here considered have been treated by the author as in-patients in St. Giles's Hospital, Camberwell, during the years 1930 to 1934. There has been a steady increase in admissions of abortions and their complications during the last 10 years, the number having risen from 147 in 1924 to 293 in 1934. The birth-rate of the Borough of Camberwell during this time has fallen from 18.8 per 1,000 to 13.2 per 1,000. The area from which the cases are drawn is a thickly populated, working-class district of south-east London. The inhabitants for the most part live in tenements, or in villas which house several families, and overcrowding is still a serious problem in spite of slum-clearance schemes and the construction of model blocks of flats. The Medical Officer of Health⁴ states that large families, accompanied by extreme poverty, is unquestionably the principal factor in the causation of overcrowding, and that only occasionally did cases come to the notice of the Public Health Department where failure to obtain improved housing accommodation was not governed by inability to pay for such accommodation. The younger women are usually employed in various factories, and the older women depend upon part-time domestic work for their contribution towards the support of their families. The economic factor is constantly obtruding upon the practise of medicine in this neighbourhood, preventing early admission to hospital, determining the line

of treatment, and taking the breadwinner back to work before recovery is complete.

The average of the women admitted with an abortion, or its complications, was 28.4 years. Of the 1,000 cases, 173 were pregnant for the first time, and 203 had no living children. There were 207 women who had one living child, 193 with two children living, and 397 with three or more children alive, of whom 136 had families numbering six or more.

Aetiology of Abortion.

The fact that many abortions are self-induced, and the natural desire of women to conceal their attempts at induction, gives rise to a great deal of misleading information, and it is probable that the tables of causes of abortion usually given are seriously vitiated for this reason. All cases here considered have been questioned in private for any history of attempted illegal induction of abortion, and it is believed that a truthful admission has been obtained in a great many cases, excepting those in which interference by a professional abortionist has taken place, for in these cases information has been found to be very difficult to obtain.

A summary of the methods employed in 485 cases of admitted illegal induction and the results are given in Table I. In Table II

TABLE I.
Induced Abortion. 485 Cases.

| Method | Abortion followed | | No abortion | | Total | Deaths |
|----------------------|-------------------|-------------|-------------|-------------|-------|--------|
| | Febrile | Non-febrile | Febrile | Non-febrile | | |
| <i>Drugs only</i> | | | | | | |
| "Female pills" ... | 14 | 6 | — | 7 | 27 | — |
| Castor oil ... | 11 | 4 | — | 6 | 21 | — |
| Pills and purges ... | 6 | 6 | 1 | 6 | 19 | 1 |
| Miscellaneous ... | 25 | 6 | — | 13 | 44 | — |
| Total ... | 56 | 22 | 1 | 32 | 111 | 1 |
| <i>Instrumental</i> | | | | | | |
| Syringe ... | 108 | 14 | 8 | 5 | 135 | 3 |
| Syringe and drugs | 170 | 19 | 6 | 6 | 201 | 7 |
| Catheter ... | 7 | — | 1 | — | 8 | — |
| Slippery elm bark | 16 | — | — | — | 16 | — |
| Knitting-needle ... | 5 | — | — | — | 5 | — |
| Abortionist ... | 9 | — | — | — | 9 | 4 |
| Total ... | 315 | 33 | 15 | 11 | 374 | 14 |

A THOUSAND CASES OF ABORTION

the probable cause of abortion in 246 other cases is given, no history of interference having been obtained. In the remaining 269 cases no cause could be assigned.

TABLE II.
Causes of Abortion. No Interference.

| Cause | Abortion followed | | No abortion | | Total Deaths |
|--------------------------|-------------------|-------------|-------------|-------------|--------------|
| | Febrile | Non-febrile | Febrile | Non-febrile | |
| Uterine displacement ... | 4 | 67 | — | 1 | 72 — |
| Fibroids ... | 1 | 7 | — | — | 8 — |
| Lacerated cervix ... | 1 | 15 | — | — | 16 — |
| Placenta praevia ... | — | 4 | — | — | 4 — |
| Hydatidiform mole ... | — | 3 | — | — | 3 — |
| Pelvic diseases ... | 5 | 12 | — | — | 17 — |
| Pulmonary diseases ... | — | 46 | — | — | 46 — |
| Syphilis ... | — | 9 | — | — | 9 — |
| Renal diseases ... | — | 9 | — | 4 | 13 — |
| Various diseases ... | — | 6 | — | — | 6 — |
| Accidents ... | 3 | 47 | — | 2 | 52 — |
| Total | 14 | 225 | — | 7 | 246 — |

The methods employed for self-induction of abortion are sometimes executed with a fanatical intensity. Acute gastro-enteritis following the self-administration of various noxious substances was present on admission in 29 cases, and was responsible for the death of one patient. Attempts by the patient to introduce the nozzle of a Higginson's syringe into the cervical canal were confessed on several occasions, and there were five cases of syncope following intra-uterine injections of various fluids by this method. Two women were admitted with six-inch sticks of slippery elm bark firmly embedded in the uterine wall.

The variation in the incidence of septic complications is noticeable, being six per cent in the series of abortions due to various diseases, 53 per cent in abortion due to drugs, and 88 per cent in abortions following the use of instruments. In the 269 cases of unknown aetiology the sepsis-rate is 30 per cent, which figure probably indicates that in a number of these cases unconfessed interference had taken place.

Most of the patients were diffident in their replies to questions directed towards a discovery of the reasons why they wished to terminate their pregnancies. In the complete series only 51 abortions occurred in single women, of whom 41 admitted interfer-

ence, and there were 13 abortions in women who were widows, or known to be living apart from their husbands, of whom only one denied interference. The remainder gave reasons which were almost entirely economic. In 78 out of 100 patients who were questioned fully, poverty appeared to be the determining factor, in nine cases obstetric fears due to previous difficult confinements were given as the reason for procuring abortion, and in the remaining 13 cases the excuses given were considered to be trivial.

Type of Case.

The state of the abortion on admission of the patient to hospital, the incidence of infective complications at that time, and the ultimate death-rate, is given in Table III.

TABLE III.
State on Admission.

| Abortion | Total cases | Infected | Deaths |
|----------------|-------------|---------------------|-------------------|
| Threatened ... | 151 | 37 (25 per cent) | 0 |
| Inevitable ... | 148 | 70 (47 per cent) | 1 (0.75 per cent) |
| Incomplete ... | 481 | 249 (52 per cent) | 7 (1.9 per cent) |
| Complete ... | 220 | 127 (58 per cent) | 10 (4.5 per cent) |
| Total | 1000 | 483 (48.3 per cent) | 18 (1.8 per cent) |

The increase of the infective complications and of subsequent deaths with the progress of the abortion before admission to hospital is noticeable, and may be contrasted with the incidence of complications in cases which showed no signs of infection on admission and in which abortion was completed in hospital. There were 122 such cases of threatened or inevitable abortion, and of these cases two (1.7 per cent) developed complications, bilateral femoral thrombosis occurring in one case and parametritis in the other.

The commonest extra-uterine complication at the time of admission was pelvic peritonitis, of which there were 71 cases. Septicaemia was present on admission in nine cases, septicaemia with general peritonitis in three cases, and general peritonitis alone in four cases.

TREATMENT OF ABORTION.

(I) *Threatened Abortion.*

These patients were placed completely at rest on admission; a pelvic examination not being made at this time if the diagnosis

was clear. Morphia, gr. $\frac{1}{4}$, was given if pains were present, and bromide of potassium was given regularly with the addition of chloral at night if necessary. Rest in bed was continued for at least one week after cessation of lochia. With this treatment 86 patients (57 per cent) were discharged still pregnant and 65 (43 per cent) aborted. Two of the patients who aborted subsequently developed complications, parametritis arising in one case and bilateral femoral thrombosis in the other.

(2) *Inevitable Abortion.*

In these cases, if the abortion appeared to be progressing normally, no treatment other than the regular administration of ergot was given, and the abortion was allowed to complete itself as far as possible. If haemorrhage necessitated further treatment, or if abortion was not progressing, endeavour was made to aid the completion of the abortion by administering an enema followed by three injections of $\frac{1}{2}$ c.c. of pituitrin at two-hourly intervals. If this treatment failed to complete the abortion the uterus was evacuated by the method to be described when considering the treatment of the incomplete abortion.

In 108 cases (72.9 per cent) the abortion was completed spontaneously or with the assistance of drugs. In 35 cases it was necessary to remove retained products after spontaneous expulsion of the foetus, and in five cases only was it necessary to remove a complete ovum. The only complication arising after admission was parametritis, which occurred after spontaneous completion of an abortion in one case.

(3) *Incomplete Abortion.*

The chief problem in the treatment of cases of abortion is in the treatment of the infected incomplete abortion. All observers are agreed that in the presence of extra-uterine sepsis, intra-uterine manipulations should be avoided if possible, but amongst Continental and American practitioners there is much controversy over the question of active, expectant and conservative forms of treatment for the incomplete abortion with intra-uterine infection. The advocates of active treatment evacuate every incomplete abortion at once unless there are extra-uterine inflammatory complications. With expectant treatment an interval of five to eight days is allowed for fever to subside, and the uterus is then evacuated if necessary, and with the conservative method no local treatment is given, endeavour being made to empty the uterus with drugs. In treatment by the expectant and conserva-

tive methods evacuation of the uterus when fever is present is carried out only when necessitated by bleeding.

It has been found that active treatment is dangerous, for by manipulations in an infected uterus before the development of any local or general resistance to infection, it is easy to spread infection from the uterus where it is controllable, to the blood-stream where it does not appear to be influenced by any method of treatment so far devised. Conservative treatment has been found to be unsatisfactory, for the effect of drugs on the aborting uterus, particularly when infection is present, is very uncertain, and morbidity is therefore much prolonged.

The cases considered here have been treated expectantly until fever has subsided, unless severe bleeding has necessitated immediate evacuation of the uterus. Five days have been found to be a satisfactory, if somewhat arbitrary, period to allow between subsidence of fever and evacuation, and it is unusual to find any aggravation of infection following evacuation after this period has elapsed. Although the presence of fever has been adopted as a guide to infection it is unwise to assume that in the absence of a raised temperature infection is not present. Cases which have aborted before admission may have been febrile then, and, as has already been shown, the probability that this is so is much increased if there is a history of illegal induction of abortion. In all cases, therefore, interference has been postponed for at least 24 hours, and more usually for 48 hours unless haemorrhage has necessitated immediate evacuation of the uterus. After this time the uterus has been evacuated, when necessary, in non-febrile cases with no history of interference, and with no signs of extra-uterine sepsis. Non-febrile cases with a history suggesting that infection might have been present before admission have been treated expectantly for at least four days. Febrile abortions have been treated expectantly until the temperature has been normal for at least five days, when evacuation has been carried out if necessary. When the temperature has failed to settle in a week and has been considered to be due to sapraemia, then the retained products have been removed with as little interference as possible.

Haemorrhage

This complication of abortion has been found to be of importance only by reason of the fact that when occurring in a febrile abortion it necessitates evacuation when this would not otherwise be performed. There has been no death from haemor-

rhage in this series of cases, although in 1933 out of 463 deaths in England and Wales from abortion, 108 or 23.3 per cent, were reported as due to haemorrhage. Individual consideration must be given to each case in assessing the need for operation, and the chief points to be considered are the degree of anaemia already present, the probability of rapid spontaneous completion, and the extent of the manipulations which will be necessary in order to procure evacuation. If, in a case of infected incomplete abortion, retained products can be felt in a dilated cervical canal, it has been found that spontaneous completion is not likely to occur, and as the retained products can be removed with a minimum of manipulation the operation has been performed without undue delay if bleeding is continuous. If, on the other hand, the cervix is but slightly dilated, and the patient's general condition is satisfactory, operation has been delayed and endeavour has been made to control the bleeding with injections of pituitrin.

The probability that abortion will be completed spontaneously is greater after the placenta is fully formed. There were, for example, 148 cases admitted as inevitable abortions. Pregnancy was advanced beyond the third month in 82 per cent of the 108 cases which were completed spontaneously, and in 55 per cent of the 40 cases in which operation was necessary to complete the abortion. Spontaneous completion is also more probable if the abortion is due to natural causes than if it is induced. There were 65 cases in which abortion was threatened on admission and subsequently completed in hospital. Interference was admitted in 26 per cent of the 41 cases which were completed spontaneously and in 54 per cent of the 24 cases which required operative completion.

Method of Operation.

The uterus is now evacuated, in many cases without general anaesthesia, and it was found possible to evacuate the uterus in 59 per cent of the cases requiring operation in 1934 after a preliminary injection of a quarter of a grain of morphia. Nulliparity is usually considered as an indication for a general anaesthetic, the operation is likely to be painful if much traction is necessary to bring the cervix into view, and it is essential that the cervix should be sufficiently dilated to admit a curette, for even a slight degree of forcible dilatation is painful.

The method of operation employed has been developed to avoid, so far as possible, any trauma to the cervix and the uterus, and to avoid any unnecessary manipulations of the uterus

or peri-uterine tissues which may be the seat of unsuspected inflammatory changes. In general, if infection is certainly or probably present manipulation and instrumentation are reduced to a minimum; if infection is considered not to be present a greater latitude is permitted to ensure complete evacuation of the uterus.

With the patient in the lithotomy position, the vulva and vagina are swabbed with tincture of iodine if the patient is anaesthetized, or the vulva swabbed with lysol solution and the vagina douched with eusol solution if no anaesthetic is being administered. A bimanual examination is then made to determine in particular the size, position and consistence of the uterus. Any displacement is corrected, and if the uterus is atonic a subcutaneous injection of pituitrin is given before proceeding. The accident of perforation of the uterus, which has not occurred in this series, is believed to be due in part to neglect of these precautions. The cervix is then grasped with vulsellum forceps, drawn into view, and any obvious pieces of retained products removed digitally or with ovum forceps. When sufficient dilatation of the cervix is present, the interior of the uterus is then explored with the index finger, and pieces of retained products identified and if possible separated and removed. Forcible dilatation of the cervix is avoided if possible, particularly in cases in which active infection is present, owing to the risk of splitting the cervix and thus providing a path of entry for organisms into the parametrium. If necessary, the soft post-partum cervix may often be dilated by use of the fingers in turn. When this is not possible Hegar's dilators up to No. 14 are used. If insufficient dilatation of the cervix for digital evacuation is present, or if, as frequently happens, the uterus cannot be completely evacuated by this means, a blunt flushing curette three-quarters of an inch in diameter is employed to explore the uterus. The sensation imparted by the normal uterine mucosa is soon recognized, and if in drawing the curette gently over the surface any obstruction is encountered, then a slightly firmer pressure is made to detach and remove the obstruction. Curettage is not performed, and attention is paid only to those places where retained products are found. As soon as pieces of retained products cease to be carried away with the flushings of half-strength eusol the curette is abandoned, and a prolonged intra-uterine douche of half-strength eusol solution is given at a temperature of 110°F if no anaesthetic is being given, or at 118°F if the patient is anaesthetized.

Bleeding usually becomes negligible, but when it persists and

the uterus remains atonic, pituitrin is administered subcutaneously. If this fails to stop the bleeding gentle bimanual compression of the uterus is employed until it ceases. Bleeding has proved troublesome only in three cases, and in these cases it has ceased after the intrafundal injection of pituitrin through the abdominal wall, a procedure recommended by Pearce.⁵ In no case has it been found necessary to pack the uterus to arrest bleeding.

In the earlier cases the uterine mucosa was then swabbed with iodized phenol. More recently an injection of sterile glycerine has been given either by means of a silver catheter, or by a soft rubber catheter lightly stitched to the cervix and retained *in situ* so that the injection can be repeated without further trouble to the patient.

Results of Operation.

Of the 694 cases in which abortion was completed while in hospital, 461 (66.4 per cent) required operative interference to complete the evacuation of the uterus, and 33 (7.2 per cent) of these subsequently showed some aggravation of infection, any rise of temperature above normal after operation being considered evidence of such aggravation. After spontaneous completion of the remaining 233 cases, only four (1.7 per cent) showed any exacerbation of infection. It is to be noted, however, that the average duration of lochia following operation was 4.5 days, whereas that following spontaneous completion was 7.5 days, and that of 18 cases which returned subsequently to hospital with abortions still incomplete, 13 had been thought to be completed spontaneously and five by operation.

Table IV compares the results of operative completion of abortion in cases showing no signs of infection before operation with the results following spontaneous completion of similar cases.

TABLE IV.
Non-Infected Abortions.

| How completed | Number of cases | Complications | Average duration of the lochia | Return cases |
|-------------------|-----------------|------------------|--------------------------------|------------------|
| Spontaneously ... | 109 | 2 (1.9 per cent) | 7 | 7 (6.4 per cent) |
| Operatively ... | 245 | 7 (2.9 per cent) | 4 | 2 (0.8 per cent) |

Any rise in temperature after operation is considered as a complication.

Average duration of lochia means the average number of days during which the lochia persisted after the completion of abortion.

The seven complications following operative completion of abortion comprised five cases showing a rise of temperature probably due to uterine infection, lasting for a maximum of five days, and two cases of femoral thrombophlebitis. The complications following spontaneous completion were one case of femoral thrombophlebitis and one case of parametritis.

Table V compares the results of spontaneous evacuation of the infected uterus with operative evacuation in the non-febrile and febrile stages.

TABLE V.
Infected Abortions.

| How completed | Number of cases | Complications | Average duration of the lochia | Return cases |
|------------------|-----------------|--------------------|--------------------------------|------------------|
| Spontaneously .. | 124 | 2 (1.6 per cent) | 8 | 6 (4.9 per cent) |
| Operatively : | | | | |
| Non-febrile ... | 153 | 15 (10.5 per cent) | 4 | 1 (.7 per cent) |
| Febrile ... | 63 | 10 (15.9 per cent) | 6 | 2 (3.2 per cent) |

Any aggravation of infection is considered as a complication.

Average duration of the lochia means the average number of days during which the lochia persisted after the completion of abortion.

The more satisfactory results of operation in the non-febrile stage, shown by the lowest number of days during which the lochia were present, and the smallest number of return cases is evident. There appears, however, to be a high degree of aggravation of infection amongst the cases in which the uterus was evacuated in the non-febrile stage. On analysis it is found that in 13 out of the 16 cases the aggravation amounted to no more than a symptomless rise of temperature for three days or less. In one of the remaining three cases the temperature was raised for seven days, there was one case of phlebitis of varicose veins and one death from septicaemia. There was also one death three hours after operation from pulmonary embolism. The two complications following spontaneous completion were both cases of parametritis. The complications following completion in the febrile stage comprised six cases showing a transient increase in temperature, three cases of superficial phlebitis and one case of parametritis. In one case in this series in which it was necessary to evacuate the uterus owing to bleeding during active infection of the pelvic peritoneum, there was no appreciable effect on the course of the infection until general peritonitis became apparent

four days later, and in one case removal of a necrotic placenta had no effect on the course of an already established septicaemia.

Complete abortion.

In those cases which had aborted completely shortly before admission and in which there was no sign of infection, no treatment other than the regular administration of ergot was given. In cases of longer standing, with persistent lochia, but no sign of active infection, gentle curettage was employed to cure the condition. More than half of the cases, however, had active infection at the time of admission, and in these cases, if the temperature did not fall with rest in bed, treatment by the intra-uterine injection of glycerine was established.

Treatment by glycerine.

The use of intra-uterine injections of sterile glycerine in treatment of pelvic infections has not been found to be of such wide application as suggested by Remington-Hobbs.⁶ It is of no value in procuring the completion of an incomplete abortion and has not been found to be of any appreciable value in the treatment of peri-uterine inflammation. It has, however, a definite place in the treatment of acute and subacute endometritis following abortion and as a prophylactic against spread of infection after the evacuation of a septic uterus. In some of the earlier cases iodized phenol was used as an intra-uterine application; more recently injections of 20 cubic centimetres of sterile glycerine have been given either as a single injection at the end of operation following a septic abortion, or repeated at six-hourly intervals by means of a soft rubber catheter lightly stitched to the cervix.

Table VI compares the results of a single application of gly-

TABLE VI.
Glycerine Treatment. Non-Infected Cases.

| Treatment after operation | Number of cases | Subsequent complications | Complications per cent. | |
|---------------------------|-----------------|-------------------------------------|-------------------------|-----|
| No application | 75 | Rise in temperature White leg | 4 cases 1 case | 6.6 |
| Iodized phenol | 83 | Rise in temperature White leg | 2 cases 1 case | 3.6 |
| Glycerine | 115 | Rise in temperature *Septicaemia | 1 case 1 case | 1.7 |

“Rise in temperature” means a symptomless rise in temperature after operation, probably due to uterine infection.

* Following curettage for subinvolution.

cerine after evacuation of the uterus when no infection was thought to be present, and after curettage for sub-involution following abortion, with the results obtained when no application was made and with the results after the use of iodized phenol.

Table VII shows the incidence of complications after operation, infection having been present on admission, but having subsided before operation, and Table VIII the incidence of complications after operations performed in the febrile stage.

TABLE VII.
Infected Cases. Non-febrile Stage.

| Treatment after operation | Number of cases | Subsequent complications | | Complications per cent. |
|---------------------------|-----------------|--------------------------|---------|-------------------------|
| No application | 37 | Rise in temperature | 4 cases | 13.5 |
| | | Superficial phlebitis | 1 case | |
| Iodized phenol | 23 | Rise in temperature | 4 cases | 17.4 |
| Glycerine | 93 | Rise in temperature | 6 cases | 7.5 |
| | | Septicaemia | 1 case | |

TABLE VIII.
Infected Cases. Febrile Stage.

| Treatment after operation | Number of cases | Av. T. | Av. L. | Subsequent complications | Complications per cent |
|---------------------------|-----------------|--------|--------|--------------------------|------------------------|
| No application | 15 | 5 | 9 | Rise in temperature | 5 cases 33.3 |
| Glycerine daily | 24 | 4 | 6 | Rise in temperature | 1 case 8.3 |
| | | | | Parametritis | 1 case |
| Glycerine 6-hourly | 24 | 3 | 4 | Superficial phlebitis | 3 cases 12.5 |

(Av. T., Av. L. = average number of days of pyrexia and the average number of days of the duration of the lochia following operation.)

The decrease in complications following the use of glycerine is marked in each type of case, and in Table VIII the diminution in the number of days of fever and the duration of the lochia following operation is also indicative of the value of this treatment.

Use of Antisera.

Antiscarlatalin serum has been used in the treatment of cases of proven septicaemia, of doubtful septicaemia, and as a prophy-

lactic against the spread of infection from an infected uterus. Analysis of the results which have been obtained shows that serum appears to be of little value in the treatment of established septicaemia, and that in those few cases in which it has seemed to be of value it has been given soon after the onset of the disease and in large doses, at least 70 cubic centimetres being given intravenously in the first 12 hours. The mortality of the cases of proven septicaemia treated by antiscarlatinal serum was 58 per cent. Its value as a prophylactic is difficult to prove, but the impression received is that when manipulations are necessary in an infected uterus, or when the placenta separates spontaneously while infection is still virulent, then a prophylactic dose of 20 to 30 cubic centimetres of serum intramuscularly may prevent extension of infection to the blood-stream. The serum was used prophylactically in this fashion in 18 cases, and in all cases subsequent progress was satisfactory, no further complications developing. Neither of the two cases which developed septicaemia after operation had a prophylactic injection of serum.

MORTALITY.

Of the 1,000 patients who were treated, 18 died. Four of them were moribund at the time of admission with an infection of the blood-stream. All the fatal cases were infected at the time of admission except one, in which septicaemia became apparent six days after curettage for subinvolution. The causes of death are summarized below.

Illegal Interference with Pregnancy, 14 cases.

(1) *By the patient*, 10 cases. In nine of these cases infection followed the use of some instrument, usually a syringe, and in one case death was due to poisoning by drugs.

Septicaemia caused death in three cases, septicaemia and general peritonitis in two cases, general peritonitis in two cases, and pelvic peritonitis with terminal pneumonia in one case. There was one death from uraemia precipitated in a case of sub-acute nephritis by sepsis following douching, and by various pills, and one death from acute enteritis with hepatic and renal failure following a variety of drugs.

(2) *By an abortionist*, 4 cases. In all these cases the uterus had been perforated. There was one death from septicaemia, two from general peritonitis, and in one case death was due to internal haemorrhage following erosion of the ovarian artery by an abscess.

Septicaemia following Operation, 2 cases.

In one case infection was present on admission, but the temperature had been normal for four days before the uterus was evacuated. An infection of the blood-stream was apparent the next day. The other case showed signs of septicaemia on the sixth day after curettage for subinvolution following abortion.

Pulmonary Embolism.

This patient died suddenly three hours after evacuation of the uterus under general anaesthesia. She had procured her abortion by means of drugs.

Cause of Abortion Unknown.

This patient was moribund on admission and died six hours later from septicaemia and general peritonitis. No history of interference was obtained and there was no apparent cause for abortion found at post-mortem.

It is probable, therefore, that death may be attributed to illegal interference with pregnancy in 14, or 77.6 per cent, of the 18 fatal cases. As the mortality is so largely dependent upon the prevalence of illegal abortion in the neighbourhood from which the cases are drawn, no legitimate conclusions can be drawn from the comparison of published results.

CONCLUSIONS.

Abortion is increasing in frequency, and the chief factor responsible for the subsequent morbidity and mortality is illegal interference with pregnancy, the interference being usually determined by poverty. The law has failed to prevent the self-induction of abortion, and the problem, which is one of preventive medicine, must be reviewed from this aspect, consideration being given to the changed economic and social conditions of the present day.

The early admission to hospital of all cases of abortion would decrease the incidence of sepsis, and would not only prevent the deaths from haemorrhage but would also avoid the prolongation of morbidity due to anaemia.

In the treatment of the non-infected incomplete abortion it is found that operative evacuation of the uterus, while it slightly increases the morbidity, considerably decreases the time of morbidity, and it is, therefore, not advisable, in this type of case, to delay operation unduly if there is any doubt of the completeness of the abortion.

A THOUSAND CASES OF ABORTION

The expectant method of treatment which is described for the infected incomplete abortion is found to avoid the unnecessary prolongation of the duration of morbidity following conservative treatment and the risk of increasing the incidence of morbidity by active treatment. Treatment of the infected uterus by injections of sterile glycerine is of value in aiding resolution of the inflammation and in preventing its spread.

Every precaution must be taken to reduce manipulation and the use of instruments in an infected uterus to a minimum to avoid the risk of spreading infection to the blood-stream, where its course is uncontrollable. Antiscarlatinal serum seems to be of little value in the treatment of established septicaemia, although it appears to be of benefit if used prophylactically.

Mortality following abortion is chiefly due to sepsis following illegal interference and is, therefore, preventable.

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