ABORTION MORTALITY

(Ten years' survey in Eden Hospital with critical analysis of last three years)

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Abortion is an important medico-social problem one is confronted with. Apart from spontaneous abortion as a disease process, abortion is intentionally induced by all classes and all over the world with considerable maternal morbidity and mortality. Intensive medical, social and ecological studies are necessary to get into the depth of such cases. While it is difficult to get correct statistics and picture of all abortion cases, a critical analysis of abortion deaths will at least throw some light on the background of such cases. The data will help in future to compare our achievements in post legislation era and its impact on the population dynamics of the nation.

Materials for survey

All cases of maternal deaths during the years 1962-71 are being analysed in the present study. Most of the time, detailed records are not available. The records are better during the period 1969-71 and a critical analysis of all abortion deaths for the period has been made. The diagnosis and causes of deaths are based on clinical findings only.

Analysis of Cases

Table I shows the admission and death pattern of last 10 years from 1962-71.

A total 12683 of abortion cases were admitted and treated during this period.

There has been a rise in the admission of abortions in the last 5 years. The reasons may be firstly, increase in the number of induced abortions in the general population and secondly, increased consciousness for hospital admission. Deaths occurred in 125 cases of abortions. The incidence of deaths from abortion during the period was 9.8 per 1000 or almost one per cent. The death rate has remained almost stationary with minor variations for the last 10 years.

Detailed analysis of all abortion deaths for the 3 year period, 1969-71 is presented below.

There is a preponderance of deaths in the age group of 21-30. A gradual and significant increase of deaths also has been noted in this age group during these three years. Teenage group deaths have occurred mostly in single mothers.

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TABLE I

Admission and Death Pattern Between 1962-71

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	Overall (1962-71)
Total confinements	13655	12671	12446	13558	13336	11714	11925	12313	9907	9531	121056
Total abortions	1146	1214	1046	1029	1020	1359	1440	1260	1696	1473	12683
Maternal mortality	73	62	65	49	62	48	48	68	65	66	596
Maternal mortality rate (per 1000 births) including abortion	5	4.4	4.9	3.4	4.3	4.1	4	5.01	5.6	5.99	4.67
Post abortal deaths	10	8	12	9	12	15	14	8	18	19	125
Maternal mortality (per 1000 births) excluding abortion	4.6	4.3	4.3	3	3.7	2.8	2.8	4.8	4.7	4.9	3.9
Maternal mortality rate per 1000 births due to abortion	8.8	6.6	11.4	8.7	11.8	11.04	9.8	6.4	10.6	12.8	9.8

TABLE II

Analysis According to Age

Age in years	1969	1970	1971
Upto 20	4 (50%)	2 (11.2%)	—
21-30	2 (25%)	9 (50%)	13 (68.4%)
31-40	2 (25%)	7 (38.8%)	6 (31.6%)

TABLE III

Analysis According to Parity

Parity	1969	1970	1971
Primi	2 (25%) (Both unmarried)	2 (11.1%) (unmarried—one)	—
2nd	2 (25%)	2 (11.1%) (widow—one)	1 (5.3%)
3rd	1 (12.5%)	2 (11.1%)	4 (21%)
4th	1 (12.5%)	—	3 (15.7%)
5th	2 (25%)	12 (66.7%)	10 (52.7%)
6th—10th		—	1 (5.3%)

Deaths from abortion were significantly higher in parity five. This is so because procured abortions are more in this group. The deaths from abortion in primigravidae have occurred mostly in single mothers. There was a solitary gravid widow during the period (one out of 45 cases who died).

Highest number of cases were in mothers carrying 8-16 weeks of pregnancy. During the years 1970 and 1971 a fair number of cases were carrying less than 8 weeks of pregnancy—perhaps a pointer to the fact that the mothers were very much fearful about pregnancy they might have.

Deaths occurring within 24 hours were almost all haemorrhagic deaths, whereas later deaths were mostly from sepsis. It is likely that active surgical treatment in selected infected cases might have prevented some deaths in cases treated conservatively.

A preponderance of anaemic patients were observed over these three years. This is in conformity with the increasing rate of haemorrhagic deaths. Anaemia in general was common in multiparae and severe in grandmultiparae.

Evidently majority of the cases had a history of interference outside. It is to be seen whether abortion deaths in general are minimised following facilities of expert help in well-equipped centres following liberalisation of Abortion Law.

TABLE IV
Analysis According to Duration of Pregnancy

Duration of pregnancy	1969	1970	1971
Upto 8 weeks	—	5 (27.8%)	4 (21.1%)
8-12 weeks	4 (50%)	5 (27.8%)	7 (36.8%)
12-16 weeks	4 (50%)	3 (16.6%)	5 (26.3%)
16-20 weeks	—	1 (5.6%)	3 (15.8%)
20-28 weeks	—	4 (22.2%)	—

TABLE V
Analysis according to stay in Hospital

	1969	1970	1971
Death in 1 hour	—	—	2 (10.5%)
Death in 1-8 hours	1 (12.5%)	3 (16.7%)	7 (36.9%)
Death in 8-24 hours	—	5 (27.7%)	6. (31.6%)
Death after 1 day upto 7 days	5 (62.5%)	9 (50%)	Nil
Death after 7 days (upto 24 days)	2 (25%)	1 (5.6%)	4 (21%)

TABLE VI
Analysis According to Haematological Status

	1969	1970	1971
Upto 5 gm%	1 (12.5%)	2 (11.1%)	5 (26.3%)
5-8 gm%	1 (12.5%)	8 (44.45%)	10 (52.6%)
8-10 gm%	6 (75%)	8 (44.45%)	4 (21.1%)
Above 10 gm%	Nil	Nil	Nil

TABLE VII

History of Interference

Interference	1969	1970	1971
Present	7 (87.5%)	14 (77.7%)	18 (94.8%)
Absent	1 (12.5%)	4 (22.3%)	1 (5.2%)

TABLE VIII

Analysis According to the Diagnosis on Admission

	1969	1970	1971
Threatened abortion with			
(i) Haemorrhage	—	1 (5.5%)	—
(ii) Peritonitis (Koch's)	—	1 (5.5%)	—
(iii) Pulmonary tuberculosis ..	—	1 (5.5%)	—
Inevitable abortion	—	1 (5.5%)	—
Incomplete abortion with shock & haemorrhage	1 (12.5%)	2 (11.2%)	4 (21%)
Septic abortion	4 (50%)	3 (16.8%)	7 (36.8%)
with (i) Peritonitis	3 (37.5%)	4 (22.3%)	2 (10.5%)
(ii) Uterine perforation & peritonitis	—	2 (11.2%)	1 (5.3%)
(iii) Jaundice and anaemia ..	—	1 (5.5%)	2 (10.5%)
(iv) Pulmonary tuberculosis ..	—	1 (5.5%)	1 (5.3%)
(v) Gas gangrene	—	1 (5.5%)	1 (5.3%)
(vi) Pelvic abscess	—	—	1 (5.3%)

More than 60 per cent of abortion deaths occurred in infected abortions.

TABLE IX

Analysis according to the Treatment done in these cases

	1969	1970	1971
Resuscitative	1 (12.5%)	—	3 (15.8%)
Conservative	7 (87.5%)	12 (66.6%)	9 (47.3%)
Conservative followed by operation (D & C)	—	—	1 (5.3%)
Operative & others:			
(a) D & C	—	3 (16.6%)	4 (21%)
(b) Anterior hysterotomy followed by subtotal hysterectomy	—	1 (5.6%)	—
(c) Laparotomy and			
(i) Repair of the perforation of the uterus	—	—	1 (5.3%)
(ii) End to end anastomosis of gut & repair of the wound of uterus	—	1 (5.6%)	—
(iii) Repair of the perforation of intestine	—	1 (5.6%)	—
Posterior colpotomy	—	—	1 (5.3%)

None of the cases had operative intervention in the year 1969. Analysis of the death series at least exhibit a tendency to conservative treatment in lesser and lesser number of cases over the 3 years period of 1969, 1970 and 1971 with simultaneous reduction in death rate also. This is a rejoinder to our earlier belief whether active surgery in the form of early evacuation or even hysterectomies in selected septic cases would further lower abortion deaths.

Discussion

Abortion is responsible for a significant number of maternal deaths every year. Not all cases of abortion come to light and the incidence is difficult to determine. In the series under survey incidence of abortion was nearly 9.5 per cent of all obstetric admissions. Highest number of deaths was found in the 5th para and in the age group of 21-30 years. In more than four fifths of the deaths there was history of interference. The highest percentage of cases were among mothers 8-16 weeks' pregnant, though in the later years' nearly one fourth of the cases were less than 8 weeks' pregnant and all of them had history of interference outside. An explanation to this may be that the mothers were so very scared of pregnancy that they wanted to get rid of it before the diagnosis of pregnancy was even established. Some of them might have been suffering from other causes of amenorrhoea e.g. lactational, etc. and fell an easy prey to quacks and interfered with by them with resultant morbidity

TABLE X

Analysis According to the Cause of Death

	1969	1970	1971
(A) Haemorrhage and shock	1 (12.5%)	2 (11.0%)	4 (21%)
(B) Septicaemia	4 (50%)	5 (27.7%)	5 (26.3%)
(C) Peritonitis - (Septic)	3 (37.5%)	5 (27.7%)	5 (26.3%)
(D) Anuria from irreversible shock	—	1 (5.6%)	—
(E) Hepato-renal failure following septic abortion	—	1 (5.6%)	2 (10.5%)
(F) Gas gangrene	—	1 (5.6%)	1 (5.3%)
(G) Pulmonary embolism following septic abortion	—	1 (5.6%)	1 (5.3%)
(H) Associated causes:			
(i) Acute pneumothorax	—	—	1 (5.3%)
(ii) Intestinal perforative peritonitis (? Tuberculous)	—	1 (5.6%)	—
(iii) Haemoptysis	—	1 (5.6%)	—

Three years' analysis of the causes of death showed a significant rise of haemorrhagic deaths: 12.5% in 1969, 16.6% in 1970 and 21.0% in 1971; while septic deaths recorded a decline in later years: 87.5% in 1969, 72.2% in 1970 and 73.5% in 1971. This points out the urgent need of improving our domiciliary treatment, ambulance and blood transfusion services to minimise haemorrhagic deaths. Availability of newer potent antibiotics and their use by general practitioners and quacks as well must have helped in bringing down death rate from sepsis.

and sometimes mortality. Three out of four primigravidae met with during 1969-71 were unmarried and there was a solitary gravid widow—all of them were admitted with history of interference, septic abortion and peritonitis. A change in social outlook and easy availability of expert help might have saved these lives.

21-30 years age group was found the most vulnerable period. Out of all abortion deaths, the death rate in this age group was 25% in 1969, 50% in 1970 and 68.4% in 1971. A sincere and all round effort in educating women to family planning and contraceptive procedures is necessary to avoid unwanted pregnancies in this most fertile period of life. This only can basically prevent wastage of so many maternal lives at their early ages.

There has been a rise in the admission of abortions in the last 5 years, though the death rate has remained almost constant. Average for the 10 years (1962-71) showed abortion responsible for 20.9% of all maternal deaths. Detailed analysis revealed a rise in haemorrhagic deaths during the 3 years period of 1969-71. While there has been some decline in deaths from sepsis, sepsis continued to be the prime killer in abortion deaths. Out of a total of 45 deaths during the period 1969-71, as many as 31 (68.9%) died from sepsis. Devi and Shastrakar (1962) in their series of maternal mortality during the period 1952-60 from Medical College, Nagpur, found abortion responsible for 2.6% of all maternal deaths and all the abortion deaths (100%) were from sepsis.

In a survey for the period 1962-65 from the Govt. Hospital for Women and Children, Madras, Menon (1969) quoted maternal mortality rate (per 1000) of 4.1 from abortions and 6.2 from deliveries after 28 weeks. Comparable figures in the present series are 8.9 and 4.05 respectively. This shows that abortion deaths are nearly double in our hospital compared to figures in a premier hospital in Madras, while maternal death rate excluding abortion is only 2/3rd as common. Guha (1972) in analysing maternal deaths for the year 1969-70 from Lady Dufferin Victoria Hospital, Calcutta, found a death rate of 2.58 including abortions—the comparable figures in our series being 5.3. Out of total maternal deaths, abortion as a cause was found in 15.2% cases in Guha's series, while the figure was 19.7% in our series in the particular year—4.5% more than Guha's figure. Abortion deaths are thus nearly double in our series compared to two other series—Menon (1969) from Madras and Guha (1972) from Calcutta. It may be due to the fact that being a big teaching institution in an overcrowded city this hospital caters to a great majority of serious, complicated and moribund cases.

Septic deaths in the present series were found in 68.8% of all abortion deaths during the period 1969-71. Purandare (1967) found an incidence of 20% from G.S. Medical College, Bombay. His way of treating cases was mainly conservative with antibiotics, cortisone and blood transfusions. He discouraged heroic surgical intervention. Reid (1967), on the other hand, recommended hysterectomy in seriously ill cases of septic abortion with persistence of shock—removal of uterus, a bag of endotoxin—being followed by rapid improvement in the patients' general condition. In the present series, patients who survived the first 24 hours and lived upto 7-24 days were mostly septic cases. Could active surgery in selected cases better the salvage rate?

From the above discussion it is quite clear that every year abortions cause a considerable number of maternal deaths. Deaths from haemorrhage have tended to rise. A competent domicilliary treat-

ment, transport and blood transfusion service will go a long way in lowering deaths from haemorrhage. Ignorance plays an important role in great many of the procured abortions. Only a wide compaign on the immediate and remote dangers of such abortions can reduce interference and deaths from abortions. It is to be seen how the legislation on abortion in the form of liberalisation will reflect on the abortion mortality of our country and psycho-somatic health of our women folk. A break through is expected.

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