GROUP II

MATERNAL MORTALITY IN OPERATIVE OBSTETRICS

Reviewed by

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MATERNAL MORTALITY FROM CAESAREAN SECTION IN INFECTED CASES

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CRANIOTOMY

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MATERNAL MORTALITY IN CAESAREAN SECTION

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MATERNAL MORTALITY DUE TO OPERATIVE DELIVERY AND OBSTRUCTED LABOUR

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MATERNAL MORTALITY ASSOCIATED WITH CAESAREAN DELIVERIES

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Jay K. Dhurandhar, M.D., D.G.O.
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MATERNAL MORTALITY, MATERNAL MORBIDITY AND OPERATIVE OBSTETRICS

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Introduction

An analytical summary is made of six papers on maternal mortality in operative obstetrics. There are two papers discussing the mortality in caesarean section and a third on the same subject in infected patients. One paper is on maternal mortality and morbidity in operative obstetrics, one is on maternal mortality due to operative delivery in obstructed labour and one on maternal mortality in craniotomy. It is interesting to group their data under common headings and to note the difference in their results, depending on different environmental conditions prevailing at different places in this country. The data are tabulated in two tables given below. Mehtaji's paper covers a period of 39 years and the reviewer has compared the results during the last 10 years with previous 28 years.

Discussion

After analysis of the papers submitted the following observations can be made.

TABLE I

Incidence of Maternal Deaths in Operative Obstetrics

	Total No. of deliveries	Total No. of operations	Total No. of operative deaths		Caesarean Section		Destructive operations		Hysterectomy		Forceps		Manual Removal of Placenta		Versions.	
			No.	Percentage.	No. of Caesarian sections.	Mortality rate in percentage	No. of operations	Mortality rate in percentage	No. of operations.	Mortality rate in percentage	No. of operations.	Mortality rate in percentage	No. of operations.	Mortality rate in percentage	No. of operations.	Mortality rate in percentage
Parikh and Dhurandar, N. Wadia Maternity Hospital, Bombay, 1958-68	105724	..	..		2603	1.9	..		..		..		..		..	
Mehtaji and Loyn-moon, Cama and Albless Hospital, Bombay 1930-68	157161	..	..		3012		..		..		..		..		..	
1930—39	27568				411	5.1										
1940—49	33260				511	4.07										
1950—59	50256				658	3.4										
1960—64	25854				750	1.7										
1965—68	20223				688	0.87										
Sheth and Dattar K. E. M. Hospital, Bombay, 1964—68	..	1140	15	1.3	535	0.74	28	7.1	19	19	425	0.97	63	3.1	70	..
Jayalakshmi R. Govt. Erskine Hospital, Madurai, 1960—68	47179	12425	..	..	2594	..	464	8.22	..	..	7076	..	..	..	..	..
Gogoi M. P. Gauhati Medical College, and Hospital, Assam. 1962—69	14669	150	14	8.7	107	12.1	37	2.7	2	1.3	..	..	..	..	4	..
Narayana Rao Kurnool Medical College Kurnool	..	..	..	..	..	..	.	..	12 11 (suturing of rent)	30 22	..	..	..	..	..	..

TABLE II

Analysis of causes of deaths in Obstetric Operations in Percentage

Author	Type of operation	No. of deaths	Haemorrhage Ante-Partum	Haemorrhage Post-Partum	Anaesthesia	Shock	Sepsis	Anaemia	Pulmonary Embolism	Acute Renal Failure	Miscellaneous.
Mehtaji and Loyn-moon	Caesarean section	84	8.3	3.1	9.4	21.4	26.4	..	2.2	..	29.2
Parikh and Dhurandar	Caesarean section	31	25.8	9.6	..	..	32.3	6.2	..	..	26.2
Narayan Rao	Caesarean section	42	31.0		20	16	31	..	..	2	..
	Hysterectomy or suturing of rent	23	0.39		8.8	36	17.1	..	..	..	..
Jayalakshmi	Craniotomy	31	..		..	31	44	..	..	..	23

Sheth and Dattar have shown a very low incidence of mortality in operative obstetrics in booked cases. This rate is definitely high in unregistered cases and patients having complications like anaemia, tuberculosis, hypoproteinemia, and avitaminosis. The authors emphasise the need to avoid operations as far as possible in order to lower the percentage of mortality and morbidity. All pregnant women should be given meticulous antenatal care so that they are absolutely fit to undergo any major surgery, should it become necessary.

Parikh and Dhurandhar show a mortality of 1.19 per cent in caesarean sections. Haemorrhage and sepsis were responsible for 35 per cent and 32.3 per cent respectively. They, however, state that lack or delay in replacement of blood loss were not responsible for deaths due to haemorrhage as blood transfusions were available without any difficulty. Factors like anaemia, toxaemia, hypoproteinemia or associated medical disorders produced adverse effects in the management of patients. Sometimes cases were admitted too late in a moribund condition of irreversible shock. Sepsis was a primary culprit in one third of cases and out of 10 deaths, 3 were in booked cases. Overconfidence in and excessive reliance upon antibiotics should not lure the obstetrician into ignoring the basic tenets of asepsis, and this emphasises the need of meticulous attention by the attendants in the labour ward and operating theatre. No death resulted from anaesthesia and this could be attributed to the more frequent use of local infiltration with novocaine in cases with shock who were unsuit-

able for spinal or general anaesthesia. In six out of thirty-one cases, the death was due to preventable factors and the authors rightly caution the use of caesarean section in sepsis, anaemia and toxaemia, etc. where the operation is dangerous and even lethal.

Mehtaji and Loyn-moon in their analysis of 84 deaths during 39 years have shown a drop in the percentage of maternal mortality from 5.1 per-cent to 0.6 per cent. Shock and sepsis are responsible for 21.4 per cent and 26.4 per cent respectively, whereas the percentage of deaths due to haemorrhage is definitely lowered. Deaths due to anaesthesia are 9.4 per cent of all deaths and this is indeed a strikingly high figure which certainly could be lowered.

In analysis of avoidable factors, the authors consider the patient was responsible in 34.2 per cent of deaths, the doctor in 38.2 per cent, institution was responsible in 14.5% and in about 10 per cent no definite cause could be ascertained. Improved antenatal and intranatal management and liberal availability of blood transfusions and presence of expert anaesthetists for operations could certainly minimise the operative mortality in caesarean sections. Till then the best way to reduce the mortality is to limit the number of caesarean sections by careful choice of the indications and the role of caesarean sections in modern obstetrics needs constant reappraisal from time to time.

Gogoi from Assam reports a mortality in caesarean sections of infected patients as 12.1 per cent, whereas the mortality in destructive operation is only 2.7 per cent. The main complications following caesarean sections were peritonitis in 65.5 per cent, and post-operative shock in 16.8 per cent. Peritonitis did not occur in patients having destructive operations and sepsis was also seen less in this group. This justifies the place of destructive operation in infected cases. However, management in each case should be carefully evaluated and the author rightly advocates a caesarean section in infected cases if the foetus is alive and also when the lower segment is on the verge of rupture, even if the foetus is dead.

Narayan Rao reports 42 deaths in caesarean section. Sepsis and haemorrhage were the causes in about two thirds of cases and shock and anaesthesia were responsible for the remaining. Out of 34 deaths due to rupture uterus, 11 were not operated upon. Suturing of the rent was done in 11 cases and hysterectomy in 12 cases with a mortality of 22% and 30% respectively, thus showing that suture of rent is safer in the more shocked patients, other factors being equal in both the groups. Narayan Rao considers that the important avoidable factors responsible for high mortality are lack of antenatal care, delay in hospitalisation, anaemia, lack of blood transfusion facilities and error in operative delivery and anaesthesia.

Jayalakshimi reports an incidence of 8.2 per cent in 464 cases of craniotomy and 5.5 per cent in caesarean sections. The indications for craniotomy were obstructed labour in 66.5 per cent, inertia with severe intrapartum sepsis in 12.2 per cent and

hydrocephalus in 15 per cent. The mortality was mostly due to endotoxic shock and sepsis and in some cases it was due to associated postpartum haemorrhage. The complication of vesico-vaginal fistula was noted in 5.9 per cent of craniotomy operations and was mainly due to pressure necrosis and rarely due to direct injury. The author states that with improved socio-economic conditions and facilities this operation will be done less and less often.

Thus, it is evident that mortality from operative obstetrics is to a large extent dependent on adverse socio-economic conditions prevailing in our country. This being a national problem, further reduction in maternal deaths will only be possible when the socio-economic condition of the population is raised.