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MILTON L. McCALL, M.D.

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CONTENTS DECEMBER 1963

Symposium on Maternal Mortality

D. E. CANNELL, M.B.
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Symposium on Malignancy Associated with Pregnancy

MILTON L. McCALL, M.D.
GUEST EDITOR

(continued)

CONTENTS (continued)

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(continued)

CONTENTS (continued)

MATERNAL MORTALITY

FOREWORD

THE SYMPOSIUM HERE PRESENTED on Maternal Mortality in Canada consists of contributions from six of this country's twelve medical schools. The reports reveal several facts which justify more extensive and coordinated study on a national basis. The findings should then be made available selectively to both the profession and the public. The single point of greatest significance is that with the application of our current knowledge, our present mortality might be reduced by 50 per cent. That such improvement could be further enhanced is obvious from the contributions of the authors of the sections on toxemia and maternal deaths in isolated areas. Their contributions emphasize that these problems are both social and professional. Improvement in organization and application in both fields is essential if the maximum results are to be achieved.

The tragic and unnecessary loss of life from criminal abortion is in all likelihood only a small proportion of those who suffer permanent and significant disability from such procedures. In our opinion, the answer does *not* lie in wider legalized indications for abortion on socioeconomic grounds, but rather on the greater availability and utilization of contraceptives, with a more liberal use of sterilization, for both male and female. The obstetrician bears a significant social and professional responsibility in this regard. The medical profession as a whole should lead rather than follow public opinion in advocating such reforms as may be necessary to achieve these ends.

Maternal mortality committees have proven their usefulness. They may be improved, and with the wider application of their findings, greater achievements may be anticipated.

The editor is grateful for the cooperation of his colleagues in their efforts to record the initial steps which have been taken in Canada in this regard during the past decade.

D. E. CANNELL, M.B.

HEMORRHAGE AS A CAUSE OF MATERNAL MORTALITY

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INCIDENCE

HEMORRHAGE STILL RANKS IN THE FOREFRONT of the causes of maternal death, representing 29.8 per cent of all maternal deaths in the United States during 1958.[4] In a study of maternal mortality in Ontario from 1958 to 1961, hemorrhage contributed 33 per cent of all direct obstetric deaths. McCall, in the Oregon State Maternal Mortality Study of 1957 to 1960, reported an incidence of 49 per cent of direct obstetric deaths due to hemorrhage. In England and Wales, 17 per cent of maternal deaths from 1952 to 1954 were caused by hemorrhage,[5] while during the period from 1955 to 1957[6] the same area reported a 14 per cent incidence. The low incidence claimed in the English series is accounted for by the standard for classification of hemorrhage in the English series, which includes only those cases due to placenta previa, abruptio placentae, and postpartum hemorrhage. In the Ontario series, deaths due to the above causes represented 13 per cent of direct obstetric deaths.

Maternal mortality from all causes has shown a remarkable decline in the past 30 years (Table 1). Eastman points out that in the United States maternal mortality has fallen from slightly over 60 per 10,000 live births in the white population in 1930 to 2.6 in 1958. This represents a decrease to approximately one-twentieth of the figure of 30 years ago. In the non-white population, the reduction has been only to one-tenth of that existing in 1930. In Canada during approximately the same interval, the incidence of maternal mortality fell from 50.8 in 1931 to 5.6 in 1958. In England maternal mortality fell from 44.2 in 1928 to 6.6 in 1955.[5, 6] Thus, of these countries, the United States has shown the greatest decrease in maternal mortality in the past 30 years, and at present represents the lowest maternal mortality of all three areas.

The variation in maternal mortality within a country is remarkable, Canadian figures in 1958 varying from 3.8 in British Columbia to 9.4 in

Newfoundland. In remote areas such as the Northwest Territories of Canada, the rate in 1958 was 42.3, approximately the same as it had been in Saskatchewan in 1931. Eastman has pointed out that variations of this latter type are related to environmental factors rather than those of color or racial background. Where the quality of medical care is the same, there is little difference in mortality for people of different racial groups. The important variants are social and economic factors, such as the state of medical care, education, and diet. In addition, maternal mortality rises significantly with increasing age and parity of the mother.

Table 1. Maternal Mortality per 10,000 Live Births, 1928–1958

	1928	*1930*	*1931*	*1955*	*1958*
U. S. A.					3.8
White		60+			2.6
Non-white		117			10.2
Canada			50.8		5.6
Newfoundland			64.1		9.4
Saskatchewan			43.6		
British Columbia					3.8
N. W. Territories			102.6		42.3
England and Wales	44.2			6.6	

These latter two factors tend to be associated. Reasons for the remarkable decline in maternal mortality over the past 30 years are multiple, and it is difficult to assess the true significance of any single factor. Undoubtedly, the increased use of blood, blood components, and blood substitutes, and the advent of antibiotics and chemotherapy, have played a major role. Eastman has stressed other factors, including:

1. Extended training and education of an increased number of obstetric specialists, and better preparation and continuing education of general practitioners.

2. The provision of better antepartum care to rural areas, and the availability of specialist consulting services for abnormal cases in remote areas.

3. The increasing use of hospital facilities for delivery. In this respect, it is interesting to note that in 1935 in the United States, 63 per cent of obstetric cases were delivered at home, and the maternal mortality in 1930 was 60, while in 1957, 4.4 per cent of patients were delivered at home, and the maternal mortality rate was 3.8.