Ethnic differences in the distribution of normally formed singleton stillbirths

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Summary

The normally formed singleton stillbirth deliveries occurring in Dudley Road Hospital in 1979, 1980 and 1981 were classified according to the primary aetiology. There was a higher than normal stillbirth rate in the Indian group which was almost entirely accounted for by the increased number of stillbirths falling into the 'intrauterine death before labour' group.

KEY WORDS: stillbirths, blacks, whites, Asians.

Introduction

The perinatal mortality rate in Great Britain has been declining steadily. Although the causes of this fall are not known, many feel that improvements in social conditions are important factors. More comprehensive antenatal and intrapartum care may be contributory, although it has been suggested that these are of little consequence (Chalmers, Lawson and Turnbull, 1976; Kelso *et al.*, 1978).

Despite the undoubted value of large scale epidemiological studies (Chamberlain *et al.*, 1978) in the assessment of risk, they can mask important locally acting factors.

At Dudley Road Hospital, it was demonstrated that, in 1979, the crude perinatal mortality rate in the Indian population at 27.5/1000 was significantly ($P < 0.02$) higher than that of the European population at 13.5/1000 (Terry, Condie and Settatre, 1980). A further study (Terry and Condie, 1981) showed that for normally formed singleton deliveries, the perinatal mortality rates in the Indian group with birth weights of 2000-2999 g and 3000-3999 g were higher (11.5/1000 and 6.7/1000 respectively) than in any of the other ethnic groups. The vast majority of these good weight normally formed perinatal deaths were stillbirths, normally formed neonatal deaths weighing more than 2000 g being very rare.

In an attempt to find the cause of these observed differences, a more detailed study of normally

formed stillbirths occurring in singleton pregnancies in the years 1979-81 was undertaken.

Patients and methods

The case notes of the normally formed, singleton stillbirths were examined in detail. The cause of each stillbirth was categorized into one of 4 possible classifications. Those thought to be due to intrauterine growth retardation or to placental insufficiency or were unexplained were all classified in the same group known as 'intrauterine death (IUD) before labour' provided no other pathology was detected. The antepartum haemorrhage group included both placental abruption and placenta praevia. The hypertensive disease group included both pre-eclampsia and essential hypertension. The 'other' group included all the other causes found such as cord prolapse, intrapartum death and diabetes mellitus. The ethnic origin of the mother was obtained from the labour ward register.

Results

Although the Indian group had the highest total number of normally formed stillbirths (28) and the highest rate (8.9/1000), the difference from the European group was not significant.

The distribution of the causes (Table 1) was similar in all the ethnic groups except for the increased number of Indian stillbirths falling into the 'intrauterine death before labour' group (difference from the European group: $P < 0.01$) which accounted for the increased overall rate in this group. The slightly greater incidence of stillbirths due to hypertensive disease in the West Indians, although not unexpected, was not significant.

Discussion

The normally formed stillbirth group contains a large proportion of the perinatal deaths which, under ideal circumstances, may be regarded as preventable. The 'other' group of deaths contain those thought to

TABLE 1. Ethnic distribution and the causes of stillbirths (rate/1000)

Ethnic group	Total normally-formed singleton deliveries	IUD before labour	Antepartum haemorrhage	Hypertensive disease	Other	Total
Indian	3162	19 (6.0)*	6 (1.9)	3 (0.9)	0 (0.0)	28 (8.9)
Pakistani	1599	5 (3.1)	3 (1.9)	3 (1.9)	0 (0.0)	11 (6.9)
West Indian	1254	2 (1.6)	3 (2.4)	3 (2.4)	1 (0.8)	9 (7.2)
European	4918	10 (2.0)	8 (1.6)	3 (0.6)	7 (1.4)	28 (5.7)
Others	467	1 (2.1)	1 (2.1)	0 (0.0)	1 (2.1)	3 (6.4)
Total	11400	37 (3.2)	21 (1.8)	12 (1.1)	9 (0.8)	79 (6.9)

Difference for the European group: * $P < 0.01$.

be due to conditions such as diabetes and cord prolapse, in addition to obviously avoidable intrapartum deaths. Maternal hypertension, from whatever cause, will always represent an increased risk to the fetus which may be reduced with careful management. Deaths due to antepartum haemorrhage, especially those due to placental abruption, often occur unexpectedly and many are unavoidable.

Those deaths classified in this study as 'intrauterine death before labour' represent the largest and most interesting group. There is often a suggestion of 'placental insufficiency' along with 'intrauterine growth retardation'; nevertheless the degree of growth retardation is frequently less than is observed in many live born infants. Many deaths in this group are unexplained and represent a considerable challenge to perinatal epidemiologists. The fact that such deaths appear to occur more commonly in Indians may help in the identification of possible aetiological factors.

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