

## THE AVOIDABLE FACTORS IN STILLBIRTHS

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### SYNOPSIS

A review of all Stillbirths occurring in the University Department of Kandang Kerbau Hospital for the years 1969 and 1970 was made in order to assess the extent and nature of the avoidable factors.

Antepartum Haemorrhage, Hypertensive Disorders of pregnancy and Fetal Abnormalities accounted for 41% of the Stillbirths. The cause was not known in 33% of cases.

Avoidable factors were present in 35% of the Stillbirths and consisted mainly of lack of antenatal care in unbooked patients, disregard of medical advice, late admission of patients in labour and self delivered cases at home.

### INTRODUCTION

The perinatal mortality in the University Department of Kandang Kerbau Hospital in 1969 and 1970 was 20.9 and 21.6 per 1,000 births respectively. In spite of this low perinatal loss, it was felt that a number of stillbirths could have been avoided. The aim of this study was to determine the extent and nature of the avoidable factors with a view to preventing future fetal loss. This paper presents a review of the Stillbirths for the years 1969 and 1970.

### RESULTS

The overall Stillbirths rate was 10.0 per 1,000 births for 1969 and 9.1 per 1,000 births for 1970 (Table I).

TABLE I

Year	No. of Stillbirths	Total Births	S.B. Rate per 1,000 Births
1969	103	10,269	10.0
1970	84	9,623	9.1

These figures compare favourably with those reported from England and Wales as shown in Table II.

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TABLE II

Place	S.B. Rate per 1,000 Births
K.K. Hospital (University-Unit) 1969-1970	9.6
Mill Road Maternity Hospital, Liverpool, 1967 <sup>1</sup>	19.8
England and Wales, 1966 <sup>3</sup>	15.4

Table III presents the probable causes of the Stillbirths in the Unit in decreasing order of frequency.

### DISCUSSION

Antepartum Haemorrhage, Hypertensive Disorders of Pregnancy, and Fetal Abnormalities were common causes of Stillbirths both in Singapore and England and accounted for 41% of the Stillbirths in our Unit. The cause was not known in a high percentage (33%) of cases. This is due to lack of antenatal care, early discharge from hospital, and failure to come for postnatal follow up and investigations. Early booking and regular follow up could have revealed a cause in many of these cases and a Stillbirth thus avoided.

Rhesus Incompatibility is a rare problem in Singapore as compared with England and Europe.

In our experience, Abruptio Placentae is the most common cause of Stillbirths in the antepartum haemorrhage group, accounting for 25 cases out of a total of 32 for the years 1969 and 1970. The majority of these were of the mixed variety. Four cases were shocked and resuscitated successfully. There were no maternal deaths.

In 22 cases, the onset was sudden with no previous warning haemorrhages.

TABLE III

Causes	K.K. 1969-1970 No. of S.B.	Mill Rd. M.H., Liverpool 1967 <sup>1</sup>	Glasgow Royal Mat. Hosp. 1960-1962 <sup>2</sup>
1. Antepartum Haemorrhage	32 (17%)	35 (49%)	127 (22%)
2. Hypertensive Disorders of Pregnancy	28 (15%)	4 (5.6%)	78 (13%)
3. Fetal Abnormalities	17 (9%)	11 (15%)	140 (24%)
4. Unexplained Intra-uterine Deaths	64 (33%)	15 (21%)	102 (17%)
5. Cord Prolapse	9	1	14
6. Erythroblastosis	4	3	42
7. Infection	5	1	15
8. Diabetes Mellitus	5	0	5
9. Birth Trauma	4	2	22
10. Postmaturity	3	0	17
11. Others (e.g. Knot in Cord 1, self delivered Cases 5, uterine Haemangioma 1)	16	0	22
TOTAL	187	72	584

TABLE IV

## ANTEPARTUM HAEMORRHAGE

Type	K.K. 1969-1970 No. of S.B.	M.R.M.H., Liverpool 1967
Abruptio Placentae	25	14
Placenta Praevia	2	5
Vasa Praevia	1	0
Undertermined Origin	4	16
TOTAL	32	35

TABLE V

HYPERTENSIVE DISORDERS  
OF PREGNANCY

Causes	K.K. 1969-1970 No. of S.B.
Hypertension	6
Pre-eclampsia	19
Eclampsia	2
Renal Disease	1
TOTAL	28

Avoidable factors were probably present in 14 cases; 9 cases were unbooked; 1 case developed abruptio after a failed attempt at external cephalic version and 4 booked cases had antecedent pre-eclampsia.

Antenatal care with adequate treatment of mild pre-eclampsia would probably lower the stillbirth rate in abruptio placentae.

Placenta Praevia was not a major cause of Stillbirth in our series.

There was one case of a Stillbirth due to bleeding from vasa praevia. This could have been avoided had the blood in the vagina been tested for fetal haemoglobin. Since this case, Anderson's modification of Singer's Test has been used in the unit in cases of antepartum haemorrhage.

Of the toxæmia group, pre-eclampsia accounted for the majority of the Stillbirths; 18 of the 19 cases were of moderate severity.

Avoidable factors were present in 10 cases. Five were unbooked; one refused admission; two were not admitted early enough from the antenatal clinic when the blood pressure showed a slight rise initially; one patient was admitted to hospital by her general practitioner after failure to control her blood pressure on an outpatient basis and one case was discharged too early because of an acute shortage of beds.

Both the eclamptic patients were unbooked and came in with severe hypertension and gross oedema.

Of the 6 hypertensive cases, one was unbooked and one discharged herself from hospital against medical advice.

In retrospect, good antenatal care, adequate bed rest in hospital, and adherence to medical advice would have probably reduced the Stillbirth rate.

TABLE VI  
FETAL ABNORMALITIES

Type	K.K. 1969-1970 No. of S.B.	M.R.M.H., Liverpool 1967
Anencephaly	9	10
Hydrocephaly	1	—
Heart Disease	1	—
Limb Abnormalities	1	—
Others	5	1
TOTAL	17	11

#### FETAL ABNORMALITIES

Anencephaly was the most common cause in this group, accounting for more than half the number of cases.

All these were probably unavoidable.

#### CORD PROLAPSE

There were 9 cases of cord prolapse resulting in Stillbirths; 5 cases were associated with flexed breeches and the other 4 were associated with unengaged vertices. Some of these could probably have been avoided had the patients come to hospital early.

#### ERYTHROBLASTOSIS

This is a rare problem here in contrast with England. However, routine testing of maternal blood for antibodies would have probably resulted in early detection and a reduction in the Stillbirth rate.

#### INFECTION

There were 5 cases of Stillbirths associated with infection in 1969 and 1970. Two cases had urinary tract infection with high pyrexias and 3 probably had intra-amniotic infection.

Of the latter 3, 1 case could have been due to a pessary which was inserted to reduce an uterovaginal prolapse; 1 had been leaking liquor for 7 days and one was admitted in labour 2 days after the membranes had ruptured.

#### DIABETES MELLITUS

There were 5 stillbirths. Three were unavoidable as intra-uterine death occurred early despite treatment. Two were probably avoidable.

One patient refused surgical induction and the other was not detected till late in pregnancy.

#### BIRTH TRAUMA

There were 4 Stillbirths.

All were probably avoidable.

One case was admitted in obstructed labour; another was admitted from the District with the 2nd twin still undelivered 5 hours after the delivery of first twin and the third case was due to a Subdural haemorrhage resulting from a difficult Kiellands forceps. The fourth case was one of unrecognised disproportion where, after failure of the vacuum extractor and Kiellands forceps, Caesarean Section was done to deliver a fetus weighing 10 lb. 3 oz.

Institutional care and more liberal use of Caesarean Section would probably have reduced the Stillbirth rate.

#### POSTMATURITY

There were 3 Stillbirths.

Two were unbooked and 1 was allowed to go postmature by 3 weeks.

#### CONCLUSION

Avoidable Factors were present in about 35% of the Stillbirths.

The principal factor was the high proportion of unbooked patients (24%). Other major factors included disregard of medical advice, late admission of patients in labour and self-delivered cases at home or in taxis.

Rectification of these factors would no doubt improve our Stillbirth rate. However, a large proportion (33%) of our Stillbirths were due to unknown causes. Antenatal care, more accurate diagnosis, and improvement in placental function tests would probably reduce these.

#### REFERENCES

1. Mill Road Maternity Hospital, Liverpool, Annual Report 1967.
2. Practical Obstetric Problems, p. 616, 4th Edition 1969, Author: Ian Donald, Publishers: Lloyd-Luke.
3. Registrar General Report for England and Wales 1966.