recovered from the lesions, and there was a significant increase in antibody in the blood during the course of the illness.

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TWIN PREGNANCY IN THE AFRICAN

BY

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A study of twin pregnancy in the African of Southern Rhodesia has been made with a view to determining any peculiarities which might be present. It is known that the primitive African in Mashonaland, the northern part of Southern Rhodesia, had a tribal custom whereby twins were put to death immediately after birth. Bullock (1950) states that the Mashona killed any twins which were born alive because of their supposed abnormality. In view of the frequency of their occurrence, it is difficult to see why they were regarded as such an abnormality.

Material

The maternity unit of the Harari African Hospital admits all African women in labour from Salisbury and the surrounding areas. Many of these women are seen for the first time when in labour, but some two-thirds attend the hospital and municipal clinics for pre-natal care. A study has been made of 100 successive sets of twins born in hospital, where the details of the labour have been carefully kept. This hospital is staffed by qualified African midwives, with African maternity assistants in training. The African staff is supervised by a minimum of European nursing staff, who are largely concerned with administration and training of the pupils.

Results

Incidence.—In 3,464 births which took place in the hospital there were 100 sets of twins born—an incidence of one set of twins in every 35 births.

Position of Foetus.—An analysis of the relative frequency of the positions of the foetuses is shown in Table I, and comparison is made with a much larger series—Leonhard's 1,840 cases, quoted in most textbooks.

TABLE I.—Percentage Incidence of Positions of the Foetuses

Position of Foetus	Harari Hospital (98 Cases)	Leonhard (1,840 Cases)
Vertex; vertex	33.7%	38.53%
Vertex; breech	19.4%	21.19%
Breech; vertex	28.5%	14.35%
Breech; breech	12.2%	10.76%
Vertex; transverse	4.1%	8.32%
Transverse; vertex	0.0%	0.87%
Breech; transverse	2.1%	4.29%
Transverse; breech	0.0%	0.77%
Transverse; transverse	0.0%	0.92%

Distribution of Sex.—In the 100 sets of twins studied there were twin males in 25, twin females in 29, and one of each sex in 46. Unfortunately the placenta was not kept each time for careful study, and it is impossible to state how many of these 54 cases of similarly sexed twins were identical.

Interval Between Births.—In 89 sets of twins the birth of both was spontaneous, and the interval between the birth of the first and that of the second twin is analysed in Table II.

TABLE II

	Interval Between Birth of Twins in Minutes															
	5	10	15	20	25	30	35	40	45	50	60	80	110	130	160	190
No. of twins	14	21	20	10	4	6	1	4	1	1	2	1	1	1	1	1

The intervals are divided into five minutes, and the average was found to be 25 minutes between the first and the second twin. One remarkable case was not included in this analysis because of the extremely prolonged interval between the birth of the twins—namely, 136 hours.

Obstetrical Complications.—Caesarean section was carried out on three occasions—once for placenta praevia Type III, once because of a previous classical caesarean section, and once because the patient was admitted with a prolapsed oedematous cervix, which had been lacerated through outside interference. A prolapse of the cord occurred on two occasions with the first twin, and six times with the second twin. Forceps delivery, because of delay in the second stage, was carried out twice on the first twin and once on the second twin. On one occasion there was a retained placenta with a post-partum haemorrhage which required manual removal, and on five occasions an internal version was carried out because of a transverse lie in the second twin.

Stillbirths and Neonatal Deaths.—Among the 200 babies born there were 25 stillbirths and 24 neonatal deaths. The foetal mortality is therefore 24.5%. In Table III the foetal

TABLE III

	Foetal Mortality
Harari Government Hospital (1950-2)	24.5%
Simpson Memorial Pavilion, Edinburgh (1946)	17.9%
St. Mary's Hospitals, Manchester (1944)	16.0%
Liverpool Maternity Hospital (1945)	11.9%

mortality is compared with that from hospitals in Britain, and it will be seen that the foetal mortality in this series is from 50 to 100% greater than in British hospitals. All the neonatal deaths occurred in babies weighing less than 5 lb. 8 oz. (2.5 kg.), and in general their death was due to prematurity.

Incidence of Prematurity.—In 198 babies resulting from twin births whose birth weight was known, 143 (71%) were less than 5 lb. 8 oz. (2.5 kg.). Houghton and Ross (1952) found the incidence of prematurity to be 16.6% for African singleton births in this district. Table IV shows the per-

TABLE IV.—Percentage Distribution of Birth Weight

	More than 5 lb. 8 oz. (2.5 kg.)	Less than 5 lb. 8 oz. (2.5 kg.)
All babies	28.5%	71.5%
Stillbirths	30%	70%
Neonatal deaths	0%	100%
Live births	27%	73%

centage weight distribution of different categories and reveals that, although the stillbirths and live births appear to be as common when less than 5 lb. 8 oz. (2.5 kg.) as when more than that weight, the neonatal deaths all occurred in the lower weight group.

Congenital Abnormalities.—Among the 200 babies the only foetal abnormalities found were supernumerary digits in two cases and a macerated foetus in six. Of the latter six cases only one mother had a positive serological reaction for syphilis.

Discussion

An extensive investigation of twin pregnancy throughout the world was carried out by Das (1934). He found the incidence to be one twin birth in every 90 births. In the white races in the United States of America the incidence is 1 in 88, while that of the coloured races is 1 in 67. Engelhorn (1925) investigated the incidence in various countries: Russia 1 in 41.8; Sweden 1 in 81.6; Switzerland 1 in 84.5; France 1 in 99.7; and Spain 1 in 113.6. The incidence in the Africans of this district is one in 35. This incidence is about twice that found in the coloured races of the United States of America.

It has been said that the incidence is greatest where fertility is greatest, and climate has been adduced as an influence, but Das came to the conclusion that climate did not seem to have any influence. It is difficult to estimate the incidence of sterility in the African, but Willcox (1949) thought that as salpingitis of gonorrhoeal origin in the African was common the effect so far as sterility is concerned may be appreciable. Gelfand and Ross (1949) found the incidence of bilharziasis to be very high amongst Africans, and this disease produces salpingitis and so renders many of them sterile. It would seem that, although the African woman's fertility is lowered by bilharziasis and gonorrhoea, the incidence of twin birth is very high, and it is possible that the tropical climate might have some effect.

Study of Table I shows that the incidence of the position of the foetuses in this series of twins follows that of Leonhard's series, except that a breech followed by a vertex is commoner than a vertex followed by a breech. This might well tend to prolong the labour, as the breech is not such a satisfactory dilating agent as a vertex, and there is a greater tendency to early rupture of the membranes. In my experience this does not appear to be the case, and any such tendency to delay may be overcome by the powerful contractions of the uterine muscle which are seen in the African woman.

Among the 100 sets of twins analysed in this series were 54 sets of like twins and 46 sets of unlike twins. Browne (1944) states that an analysis of over 700,000 sets of twins showed a proportion of 17 sets of like-sex twins to 10 sets of unlike sex. The present series shows a proportion of 12 sets of like sex to 10 of unlike sex.

The interval of time between the birth of the babies in 89 cases in which they were left absolutely to Nature showed an average of 25 minutes. From Table II it will be seen that 10 minutes and 15 minutes are the commonest intervals. The longest interval recorded at this hospital is that of a woman who gave birth to the second twin 136 hours after the birth of the first. Both babies were normal at birth and no apparent cause could be found for the delay in the second birth. Both babies were born spontaneously as vertex presentations. After the birth of the first child the pains did not return within the normal interval of time, so the woman was allowed to carry on a perfectly normal life and the baby was put to the breast. It was thought that suckling might initiate uterine contractions, but this did not take place until five and a half days had elapsed.

Russell (1952) comments on the foetal hazards associated with twin pregnancy. He found in a series of cases in the Aberdeen Maternity Hospital that wastage of child life from stillbirths and neonatal deaths was 16%. In this series the foetal mortality was 24.5%, representing 25 stillbirths and 24 neonatal deaths. It will be seen from Table IV that in the case of the stillbirths approximately the same proportion were less and more than 5 lb. 8 oz. (2.5 kg.) as in the case of all the babies, but in the case of neonatal deaths they were all less than the standard weight used for judging prematurity. It may be concluded that in the case of the still-

births the weight of the baby does not appear to be of great importance, but, from the point of view of the neonate, prematurity is an all-important factor in the prevention of foetal wastage.

Baird (1945) has drawn attention to the influence of diet on prematurity, and the People's League of Health (1942), in a carefully controlled experiment, proved that vitamin supplements were of great importance in the production of babies of higher birth weight. This factor of adequate diet would seem to be of even greater importance so far as twin pregnancy is concerned. Table IV shows that more than 70% of the babies born were less than 5 lb. 8 oz. (2.5 kg.).

Houghton and Ross (1952) found that 16.6% of African singleton births were premature, and attributed this high incidence to dietetic deficiencies. The high incidence of prematurity in twin babies is almost certainly connected with the poor diet which many Africans subsist on, a diet which is particularly deficient in protein and vitamin content. Improvement in the African diet would diminish the incidence of prematurity in both the single and the plural pregnancies and largely prevent the foetal wastage.

Kerr and Moir (1949) report that malformation or maceration was noted in 15% of a series of twins at Glasgow Royal Maternity Hospital. In the present series the abnormalities encountered amounted to 4.5%. Supernumerary digits, which constituted two of the abnormalities, are extremely common in the African baby. In only one of the six cases of macerated foetus was the patient suffering from a syphilitic infection. Jelliffe (1952) believes the incidence of congenital abnormalities to be about the same in the African as in the European, and that is the experience in this hospital. There seems to be no reason, apart from chance, for the smaller incidence of congenital abnormalities in this series.

Summary

In the series studied there were 54 sets of like twins and 46 sets of unlike twins.

The average interval between births was 25 minutes in spontaneous deliveries.

The incidence of twin births in the African of Southern Rhodesia is 1 in 35 births.

The incidence of the positions of the foetuses is in close agreement with the standard works except that a breech followed by a vertex is commoner than a vertex followed by a breech.

The foetal mortality was 24.5%; the neonatal deaths were all in premature babies. It is considered that improved diet would reduce the foetal wastage.

Congenital abnormalities were found in only 4.5% of the series.

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