

Oral Presentation

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Deliveries of babies with neural tube defects in Omdurman, Sudan

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Background

Whilst the incidence births of babies with open neural tube defects (NTD's) is falling in the USA and Western Europe, these congenital abnormalities remain a significant cause of morbidity and mortality in Africa. As a first move, prior to looking at the use of folic acid supplementation, we have attempted to define the magnitude of the problem in a Hospital based population in Sudan.

Study design

Prospective study of all patients born with open NTD's over a 12 month period in one hospital in Sudan. Index cases were compared with a consecutive group of deliveries of babies born without NTD's (control group = ~2 × index group)

Setting

Omdurman Maternity Hospital, Khartoum, Sudan The hospital delivers in excess of 16000 women per year. Ribat University Hospital, Khartoum (delivery rate ~3500 per annum).

Research tools

Maternal questionnaire completed after delivery. Formal examination of all infants and follow up questionnaire for surviving infants at one year. Verbal consent to participation was obtained in all cases. Questionnaires were completed by a medical practitioner asking the mother the designated questions (many mothers illiterate).

Results

In the year from Feb 2003 to Jan 2004 there were 64 babies born with open NTD's. This gave an incidence of 3.5/1000 deliveries. NTD's were the most common abnormality note at birth, the incidence of all other abnormalities coming to just 2.5/1000 deliveries. 24 babies had anencephaly. 33 were stillborn and there were

20 early neonatal deaths. Young maternal age ($P = 0.0002$) low maternal educational level ($P = 0.0014$), low paternal educational level ($P < 0.0001$) and a previous history of stillbirths ($P < 0.0001$) were all associated NTD births. No index case mothers or control mothers received pre-conceptional folate supplements. Data collected in a different hospital setting and in a community setting confirmed the validity of the Omdurman incidence figure.

Conclusion

Delivery of babies with open NTD's remain a significant problem in Sudan. Poor socio-economic status and a previous history of stillbirths are indicators of high risk. The lesions seen were at the severe end of the spectrum of NTD's. Interventive studies looking at the benefit of folic acid supplementation in this population are indicated.