LETTERS TO THE EDITOR

Materno-fetal transmission of syphilis in Mozambican parturients

Maternal syphilis infection is an important contributor to perinatal mortality in many poor countries. In Mozambique it has been shown that syphilis during pregnancy contributes significantly to the aetiology of stillbirth.^{1,2}

The purpose of a study we carried out in Mozambique in 1985 was to find the prevalence of active syphilis in a pregnant population and in particular to elucidate the extent of transmission of active pregnancy syphilis from mother to fetus.

A total of 180 consecutive parturients and their 183 newborns were included in the study. Venous blood was drawn from the mothers and cord blood was harvested from the newborns at delivery. Sera were taken for VDRL analyses and frozen at -20°C for subsequent further testing. They were transported to Sweden (National Bacteriological Laboratory, Stockholm), where they were processed. Before testing sera were treated at 56°C for 30 min.

FTA-ABS and SPHA-IgM tests were carried out in any case of VDRL positivity in sera from either mother or her newborn. The FTA-ABS test was performed according to an earlier described method,³ using fluorescein-labelled anti-human IgG (SBL, Sweden). The tests were carried out quantitatively, the sera being diluted in a 2-step dilution series. The corresponding titres were subsequently expressed as the reciprocal of the highest serum dilution showing "1 + fluorescence". The solid-phase haemadsorption assay (SPHA) was carried out as earlier described.⁴ A titre of ≥4 was regarded as positive.

The sera from the 180 parturients showed VDRL positivity in 17/180 (9.4%). Cord sera from 183 newborns showed VDRL positivity in 18/183 cases (9.8%). In six cases VDRL positive sera were obtained from both mother and her newborn. Of the six mother/newborn pairs five were positive in the FTA-ABS test and considered as having or having had syphilis. The corresponding newborns had largely the same titres as the mothers (table). SPHA was then carried out in the five FTA-ABS positive mother/newborn pairs and in sera

from two of these five cases IgM antibodies corresponding to 2/180 or 1.1% of all parturients. The finding of about 9% VDRL positives among parturients is in accordance with previously reported data.^{1,5}

A positive VDRL was encountered in six mother/child pairs. In five out of these six the sera showed FTA-ABS positivity with titres ranging from 20 to 160. Of these mothers, considered to have syphilis, only two were carrying IgM antibodies detected by SPHA in titres from 8 to 64. The finding that only six pairs (mother/newborn) showed concordance in VDRL positivity, while a total of 17 mothers and 18 newborns were VDRL positive may seem strange. Other treponematoses do not seem to play any evident role in the Maputo setting. The VDRL testing, carried out in the National Bacteriological Laboratory in Stockholm, must be interpreted as having shown biological false positives.

The total number of deliveries in Maputo city is about 43 000. If the current sample of parturients are representative for the whole pregnant population it should mean that around 470 children with congenital syphilis are born each year, most of them without being diagnosed from previous maternal serology. The VDRL test should be able to distinguish roughly 9.4% or 3600 women if the current coverage of 95% in antenatal care is maintained.⁶ Of these 3600 an estimated number of 470 (13%) would be expected to suffer from syphilis affecting the fetus.

It is concluded that materno-fetal transmission of syphilis during pregnancy is a significant antenatal problem in Maputo. The findings of this first serological study of congenital syphilis in live-born neonates in Mozambique add evidence to the importance of early careful VDRL screening of the whole pregnant population during antenatal care.

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Table FTA-ABS and SPHA-IgM titres in six parturients (M) and their six newborns (F)

	FTA-ABS titre	SPHA-IgM titre
M 9	160	4
F 9	80	<2
M 19	160	64
F 19	80	64
M 124	20	<2
F 124	20	<2
M 126	<5	<2
F 126	<5	<2
M 147	160	16
F 147	160	8
M 170	20	<2
F 170	20	<2

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