

SIGNIFICANT BACTERIURIA IN PREGNANCY

A Study in Khartoum, Sudan

by

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SIGNIFICANT BACTERIURIA in pregnancy has been well investigated by Kass (1955; 1957; 1962), Sanford (1956), Brumfitt et al (1961), Turner (1961), Mustafa and Pinkerton (1970). The majority of the studies on significant bacteriuria have been carried out in Europe and the United States of America. The incidence in pregnancy has been found to be between 5 and 10 per cent. Very few studies on significant bacteriuria have been carried out in Africa where the climate and the standard of nutrition are different from those of Europe and the United States of America. An additional difference in the Sudan is the common practice of female circumcision.

This is an investigation of the incidence of significant bacteriuria in antenatal patients admitted to Khartoum Hospital during the year 1971.

PATIENTS AND METHODS

Five hundred and fifty antenatal patients were investigated. Catheter specimens of early morning urine were obtained from antenatal patients on the second day of admission to hospital and the specimens were examined within 2 hours of collection. Logarithmic dilutions of the urine (from 1:10 to 10,000,000) were made in nutrient broth. One ml. of each dilution was transferred to a MacConkey plate and incubated at 37°C overnight. The plates were examined in the morning and a growth of coliforms was suspected when large lactose-fermenting colonies were seen on MacConkey plates and large mucoid colonies on nutrient agar plates. The identity of *Escherichia coli* was confirmed by standard biochemical tests (Cowan and Steel, 1965).

Significant bacteriuria in this study is defined as the presence of 100,000 (10^5) or more E. Coli per ml. in two or more consecutive daily specimens of urine.

RESULTS

Out of 500 patients examined during the antenatal period 31 had significant bacteriuria. This is an incidence of 5.6 per cent.

DISCUSSION

The incidence of significant bacteriuria in pregnancy in Khartoum Hospital is 5.6 per cent. In a study in the Royal Maternity Hospital, Belfast, Northern

Ireland, 4.7 per cent of the patients had significant bacteriuria (Mustafa and Pinkerton, 1970). The two studies, however, are not identical. Catheter specimens of urine were obtained in Khartoum while midstream specimens were obtained in Belfast. The vast majority of the patients in the Khartoum series were circumcised. Female circumcision entails removal of the clitoris and almost complete fusion of the labia minora except for a small orifice barely adequate for passing urine and satisfactory intercourse. This orifice in some patients can only admit the tip of the small finger. As separation of the labia minora by the circumcised patient when collecting a midstream specimen is impossible, a high degree of contamination of the urine is likely to occur giving a false high incidence of significant bacteriuria. In order to avoid this, catheter specimens were obtained in the Khartoum study.

The incidence of 5.6 per cent of significant bacteriuria in Khartoum is comparable with the incidence of 7 per cent (Turner 1961), 4.4 per cent (Kaits and Hodder 1961), 5.5 per cent (Little 1965), 4.8 per cent (Pinkerton et al 1967), 5.1 per cent (Dixon and Brant 1967).

The findings in this study show that neither the hot climate nor the practice of female circumcision increase the incidence of urinary tract infection in pregnancy.

SUMMARY

Significant bacteriuria occurred in 5.6 per cent of antenatal patients in Khartoum Hospital. This incidence is comparable with the incidence reported from various parts of the world. It is concluded that neither the hot climate nor female circumcision increase the incidence of urinary tract infection.

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