MATERIAL AND METHODS
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The study was carried out in the Department of Obstetrics & Gynaecology and the Department of Microbiology, Maharani Laxmi Bai Medical College and Hospital, Jhansi, from December 1994 to November 1995 on a total number of 380 antenatal patients.

SELECTION OF PATIENTS

Patients attending antenatal clinic as well as the patients admitted in the antenatal ward of M.L.B. Medical College Hospital, Jhansi, were included in the study. The urine samples were collected from patients beyond 16 weeks of gestation as Stenqvist et al (1989) reported that the risk of onset of bacteriuria was highest between 9th and 17th gestational weeks. They suggested the 16th gestational week to be the optimal time for a single screening for bacteriuria. The samples were collected from all the patients attending the antenatal clinic on a particular day and all the patients of the antenatal ward at a particular time to pay equal importance to both normal and high risk pregnant women. Naturally, the group represented a mixture of rural and urban communities, varying socio-economic status, different age groups and parities and different culture and religion.
HISTORY

A detailed history was taken including name, age, present postal address, socio-economic status, occupation and residence (rural or urban). History of any medical illness like diabetes, hypertension, heart disease, renal disease and sexually transmitted diseases was obtained. History of any urinary problems like frequency, urgency, dysuria, haematuria was taken to rule out symptomatic urinary tract infection. Past history of any urinary tract infection and the treatment taken was recorded.

An obstetric history of present pregnancy was taken including events like any febrile illness, oedema over feet, convulsions and premature pain. History of abortions, premature labour, toxaemia, eclampsia, anaemia, intra-uterine growth retardation (IUGR) in the previous pregnancies was also taken.

EXAMINATION

A thorough general examination was conducted and the patient was asked to collect the urine sample. This was followed by a routine obstetric examination.

INVESTIGATIONS

The following investigations were performed.
Blood:
- Haemoglobin percentage,
- Blood group (ABO, Rh),
- Blood sugar,
- Blood urea,
- Serum creatinine.

Urine:
- Routine,
- Microscopic.

COLLECTION OF URINE SPECIMEN

For collection of urine, the patient was provided with a sterile wide mouthed, small bottle and a cotton swab soaked in boiled water. She was asked to clean her peri-urethral area and to separate the labia before passing urine. The mid-stream urine sample was collected directly in the bottle. The bottle was covered with the cap immediately. The patient was warned not to touch the mouth or the inner surface of the cap of the bottle while collecting the urine. The risks as well as the expected benefits of the screening was explained to the women under the study.

The urine samples were labelled and sent to the Department of Microbiology, M.L.B. Medical College, Jhansi, within one hour of collection.
LABORATORY PROCEDURE

Preparation of dip-slide:

An ordinary glass slide of size 3 inch x 1 inch (7.5 cm x 2.5 cm) was taken and at the junction of two inch and one inch (i.e. 2/3 and 1/3) length of the slide a transverse line was drawn with a wax pencil. The slide was placed in a petri dish and was sterilised in hot air oven. One millilitre of sterile mottened Mac Conkey agar medium cooled to around 50°C was pipetted on the pre-marked 1 inch square area on the sterile glass slide. The agar was allowed to set at room temperature for 15-20 minutes and the slides within the petri dishes were stored in refrigerator at 4°C and were used within three days of preparation.

In the laboratory with a four millimetre diameter platinum loop, one loopful of urine was inoculated on each Mac Conkey agar and blood agar plates for culture by standard method (Cruickshank).

Mac Conkey's Media:

Composition of Mac Conkey's media -

1. Peptone,
2. Lactose,
3. Agar,
4. Sodium Taurocholate (bile salts),
5. Sodium chloride,

Dehydrated media was obtained from Hi media and was prepared as per direction of the manufacturer.

Mac Conkey agar is a differential media which shows up lactose fermenters as pink colonies and non-lactose fermenters as colourless or pale. It is mainly used for culture of Gram-negative organisms.

Blood agar is an enriched medium, which helps growth of bacteria which are more exactly in their nutritional needs.

The dip-slide was held with the non-coated portion and dipped in the urine in the wide mouth bottle. After dipping the coated portion in urine for a few seconds, the slide was removed. Excess urine was allowed to drain away by holding the slide in the slanting position for a few seconds. It was then returned to it's original container. All the inoculations were incubated for 24 hours at 37°C. Then colony count was done with a hand lens. A count of 150 to 200 colonies on the dip-slide correspond to a viable bacterial count of 1,00,000 per ml as found out by parallel viable count by pour plate method. More than 150 colonies were taken as significant bacteriuria whereas less than 20
colonies were taken as contamination of urine during the procedure. Counts between 20 and 150 were considered with suspicion and the patients were subjected to repeat culture in next antenatal visit.

After incubation, the results of standard culture were compared with the results of dip-slide culture. The slides showing significant bacteriuria were subjected to standard bacteriological procedures from both standard culture as well as dip-slide cultures to identify the organism. The sensitivity of the organism to commonly used antimicrobial agents was found out by Kirby-Bauer method.

Postal message was sent to the patients with positive cultures to attend the antenatal clinic as soon as possible. The significance of the result was briefly conveyed to the patients and its importance was explained. The patients were treated with a complete course of sensitive antimicrobials as per the sensitivity report.