MATERIAL AND METHODS
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The present study was carried out in the department of Paediatrics and department of Biochemistry and Microbiology, M.L.B. Medical College, Jhansi.

SELECTION OF CASES

The cases included in this study comprised of children with chronic diarrhoea. Those who were admitted in Pediatric ward. Persistent diarrhoea and chronic diarrhoea was considered when it lasted for more than 2 weeks.

HISTORY AND CLINICAL EXAMINATION

In each case a detailed history particularly with regard to diarrhoea, its duration and severity, nature of stool, colour of motion, presence of mucous or blood was recorded.

History of vomiting, abdominal distension, crampy abdominal pain, frothy stools, perianal excoriation, failure to thrive, fever, anorexia were noted.

Detailed dietary history regarding the nature of feeds, date when artificial milk was started, was noted. Nutritional history regarding the average amount of proteins and calories consumed was assessed.

In the physical examination main stress on whether the child had signs of malnutrition, and dehydration besides a general examination of other system was done.
INVESTIGATIONS

Stool Examination

Gross Examination: Colour, odour, frothiness and presence of mucous or blood were noted.

Microscopic Examination: Stool samples were examined for the presence of ova, cysts, particularly of giardia and Entaboea histolytica, presence of pus cells and red cells were also noted.

Stool Culture: In every case stool culture was done at the time of admission, prior to antibiotic therapy.

Stool pH: Estimation of pH was done in all samples immediately after collection. It was done using sensitive narrow range, D.D.H. paper. pH estimation was done both at the time of admission and also at the time of discharge.

Stool for reducing substances: All the samples within 1 hour of collection were tested for reducing substances by Benedict's test.

To 5 ml of Benedict's reagent, 8 drops of liquid stool was added and boiled for about 2-3 minutes and the colour change, especially the precipitate formed was noted. It ranged from greenish yellow 1+, yellow ++, orange +++ and brick red ++++.

In case where sucrose was suspected as the offending sugar, acid hydrolysis were done. For hydrolysis stool filtrate was boiled with equal amount of N/10 HCl for 30 seconds prior to testing with benedicts' reagent. Presence of sugar in stool 75% was taken as evidence of sugar intolerance.
Rubner's test

All the samples were subjected to Rubner's test which is yet another test for detecting the presence of reducing substance in stool.

1-5 ml of liquid stool was taken in a test tube. To this was added 0.3-0.5 gm of lead acetate. The solution was boiled for 12-24 min and then cooled. Subsequently, 2-3 ml of strong liquid ammonia was added to above solution. It was again boiled for 2-4 min and then allowed to stand 5-10 min. A pink or brick red precipitate showed sugar in stool while yellowish or dirty white precipitate showed negative results. If the test was negative 2-3 ml of strong liquid ammonia solution was again added and the solution was boiled for 2-4 min. After allowing resultant solution to stand for 5-9 min. colour of precipitate was again observed. The last procedure was done according to modified Rubner's test.

Stool Chromatography

Initially the stool sample was prepared by suspending stool in distilled water, centrifuging and then filtering the supernatant. The filtrate was used directly for chromatography.

Ascending thin layer chromatography (TLC) method was employed using silica gel as the medium. Impregnated on glass slide. The solvent used was a mixture of N. Butanol, glacial acetic acid and distilled water, ratio of 60:30:4. The stool sample along with pure standard
solution of different sugar like lactose, sucrose, glucose were placed on the silica gel slide using the fine capillary glass tube. Then, the silica gel plate was kept in glass chamber which contained the solvent. By capillary action, the solvent rose on glass plate and in about 6-7 hours solvent the top of plate. The plate was removed and dried in hot air oven at 110°C for about 15 min. The chromatogram was then stained using universal iodine dye. The sugar present in sample was identified by visual comparison of the sample spot with the spot of the standard sugar samples and a qualitative estimation was done (Stahl, 1969).

THERAPY

The care was taken who were positive only lactose on chromatography.

Two groups are prepared on who are treated initially with lactose free formulae milk (soya based) and if stool culture report is positive, appropriate antibiotics are added to the regimen for seven days.

Cases of second group were fed on mother's milk and one of the commonly used antibiotic (Amikacin) for fur infection was started and changed to appropriate antibiotics depending upon culture and sensitivity report. Antibiotics was used for seven days. If there were no improvement at the end of seven days of appropriate antibiotics, treatment of those cases were switched over to treatment same as group first.