

tive in saving cholera patients. With this method, at the Pakistan-SEATO Cholera Research Laboratory, there have been only five deaths out of 537 proved cases of cholera treated there during the past year.

The most important feature of the therapy of cholera is the adequate volume for volume replacement of the fluids and electrolytes lost in the cholera stool. It is essential to place the patient on a bed or cot with a hole near the buttocks for collection and measurement of the volume of stool output so that the same volume may be replaced intravenously. This very inexpensive 'cholera cot', if introduced in hospitals and dispensaries in Pakistan, would save hundreds or thousands of lives yearly, even if only saline were used.

It has been found that the stools of cholera patients contain sodium in amounts approximately isotonic to plasma (15 mEq/liter potassium and 45 mEq/liter bicarbonate). A solution containing 5 grams sodium chloride, 4 grams sodium bicarbonate, and 1 gram potassium chloride is ideal for replacing cholera stool. Thus a patient coming in pulseless with cholera is given this solution (called 5:4:1 by our staff) rapidly intravenously until the pulse is full and slow and the patient appears clinically to be rehydrated. Then further stool losses are replaced with equal volumes of 5:4:1 solution as long as the patient continues to purge. Antibiotics such as tetracycline and chloramphenicol can shorten the duration of diarrhoea and bacteriologic positivity and thus save fluids and shorten the length of medical treatment; they cannot save the life of severe cholera patient by themselves and thus must be an adjunct to proper fluid therapy. Complications of cholera such as acidosis, acute renal failure, hypokalemia, tetany and hypoglycemia and their treatment will be briefly reviewed.

Antibiotic therapy of cholera

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While measurement of stool output and adequate intravenous fluid and electrolyte replacement remain the cornerstone of cholera therapy, antibiotics should also be given to eradicate the vibrios and thereby shorten the duration of diarrhoea and diminish total stool volume. The results of controlled trials of antibiotics orally administered to 364 patients during the 1964-'65 Dacca cholera epidemic will be presented. All patients were treated with intravenous fluids. There was a single death in this series. Duration of diarrhoea and bacteriologic positivity as well as

total stool volume were used as criteria of antibiotic effectiveness rather than mortality, since the mortality of adequately treated severe cholera in adults or children should be less than 1%.

Tetracycline was the most consistently effective drug. It must be given for 72 hours to insure uniform clinical success. Chloromycetin was equally effective in adults. Streptomycin was only moderately effective in both children and adults, with a high incidence of prolonged purging. Paromomycin (humatin) was of minimal benefit when compared to controls treated with intravenous fluid only. Preliminary results of studies of sulphaguanidine currently in progress will be presented.

Dental Caries in childhood and its Treatment

DR. SYED MONZURUL HOQUE

The problem is discussed in detail and remedies suggested.

Laboratory Investigation in Primary Sterility

DR. M. G. MUAZZAM

The male partners of one 130 cases of primary sterile couples were examined and the results reported. The methods of semen analysis including collection of the specimen have been discussed. The social and moral impact of sterile male partners on the female partners have been discussed. The further investigations that could be done in cases of infertile couple have been described. A research scheme for finding out the normal data and for full investigations in infertile couple have been suggested.

Rasponsibilities of the family doctor in the developing countries

DR. H. R. KHAN

The responsibilities of the family doctor in the developing countries are closely related with the differing conditions and medical set up existing in these countries. In some, besides the scientific system, there are other systems like Homoeopathic, Unani and Ayurvedic and the quacks, which thrive in the rural areas due to shortage of doctors and poverty, ignorance and illitracy of the masses.

The government with the co-operation of the National Medical Associations are trying to weed them out through opening of the rural health centres manned by the qualified doctors.

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