would have been wiser to do this on the second day.) Milk, with added dried milk, was given through the intragastric tube, and a daily intake of some 1,700 calories was maintained. There was a little loss of weight.

COMMENT

Mephenesin was used in this case for two main reasons. First, it is effective when given orally. But, because of its local anaesthetic action and the consequent very real danger of inhalation, it should be given in tablet form or by intragastric tube rather than as a mixture. Secondly, it acts on the spinal cord and not on the neuromuscular junctions, and therefore the danger of death from sudden respiratory arrest is negligible. Chlorpromazine has a variety of actions. The two called upon here were its excellent sedative qualities, which render the patient amnesic and drowsy without loss of consciousness, and its specific anticonvulsant action, which in this case greatly decreased the tetanic spasms within 20 minutes of the first injection.

With the method of treatment described here the child remained conscious, intravenous therapy was not required, and there was no real danger of death from sudden respiratory arrest. And, in spite of being drowsily aware of what was going on around him, the boy was not upset by the procedures, nor did he have unpleasant memories of what had been done. This treatment seems to merit a wider trial.

We thank Dr. Armstrong Davison, of the department of anaesthetics, who suggested this approach and helpfully supervised its application, and Mr. Munro Black, who carried out the tracheotomy and shared with Professor D. Court in the care of the child.

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A Paper Strip Test for Proteinuria

Recent laboratory trials of a simple paper strip test for proteinuria ("albastix") have been described (Baron and Newman, 1958; Frazer, 1958), and Carne (1958) has given his impression of the use of this diagnostic aid from the viewpoint of a general practitioner. Frazer, in particular, has commented upon its sensitivity and reproducibility, and upon the stability of the agent. The same preparation has been recently tested in various departments of a large teaching hospital, and the results are briefly reported here to indicate its considerable potentialities when applied as a routine clinical test for proteinuria.

The test consists in dipping impregnated paper strips into urine: the presence of protein causes a change of colour from yellow to a shade of green, the depth of which depends upon the concentration of protein. No difficulty has been experienced in demonstrating the technique of the test, and previously uninstructed nurses have been able to interpret the directions given on the bottle.

CLINICAL TRIAL

A total of 1,119 urines were tested by nursing staff or house-physicians in two medical wards, a general medical out-patient department, and a diabetic out-patient department. All urines were tested with albastix and with the sulpho-salicylic acid test for proteinuria (Harrison, 1957).

No attempt has been made in this study to indicate the depth of the colour reaction. The makers of albastix issue a colour scale with the preparation which purports to indicate the approximate protein content of the urine. Experience showed that it was preferable to interpret the result of the test with albastix as either "protein-free," "some protein present," or "much protein present." An appreciable number of urines caused a reaction less intense than the lowest positive colour on the chart, presumably indicating the presence of protein in a concentration of less than 30 mg./100 ml. The level at which proteinuria can be regarded as significant is, as yet, still undecided.

Of the 1,119 urines tested, the albastix and sulpho-salicylic acid (S.S.) test agreed in 98.1%, both being negative in

856 and both positive in 242 urines. There was a close parallelism between the intensity of the reaction in both tests, a "one-plus" or trace reaction with S.S. corresponding to the first colour change on the makers' chart, and a heavy precipitate on S.S. corresponding to the intenser shades of the albastix chart.

Discrepant results between the two tests were noted in only 21 urines (1.9%), indicating that essentially the same information is obtained by both tests. Of the 21 discrepant tests, 11 were in urines in which the albastix test was negative, whereas the S.S. test showed the presence of a trace of protein. Six of these 11 urines were available for re-testing, and of those re-examined the opinion expressed at the time of first testing was confirmed. These urines also showed the presence of a detectable trace of protein on applying the heat coagulation test. It is possible, therefore, to record false-negative reactions with albastix; for this series of observations, however, especial care was being taken to observe the S.S. reactions, and it is possible that, in some instances, at any rate, a trace reaction might not otherwise have been recorded. This is probably not a significant defect of this diagnostic agent, but Frazer (1958) also noted, on progressive dilution of protein-containing urines, that it was possible to achieve dilutions at which the S.S. and heat coagulation tests showed a faint positive reaction but the albastix test was negative.

The remaining 10 urines in which discrepant results were noted were those in which a colour change was recorded on the albastix strip but no result was recorded following the S.S. test. Five of these urines were rechecked. In three the S.S. test did in fact show a positive trace reaction, although this had not been noted when originally the urine had been tested. The discrepancy, therefore, was due to faulty interpretation of the standard, not of the new test. One urine on retesting was definitely negative to both tests, and the originally recorded positive albastix reaction may have been due to the presence of mucus. Streaks of mucoprotein cause a positive but streaky and patchy reaction with the albastix strips, and this was usually ignored and a further sample of the same urine was re-tested. Only one of the retested urines, with a pH of 6.4, had an inexplicable positive albastix reaction and a negative S.S. and heat coagulation test. Dr. S. C. Frazer found this urine to have a heavy bacterial content (24 hours after being passed), and this may have affected the buffering capacity of the urine. No protein was detected in a centrifuged specimen, but the albastix reaction remained positive. The patient, a diabetic, had had urinary infections previously, but was asymptomatic, and subsequent samples examined were normal.

COMMENT

For all practical purposes albastix strips give the same order of information as is obtained by testing the urine with S.S. An error of only 1.9%, on the basis of a presumably correct interpretation of the S.S. test, is negligible; and, in any case, some of the discrepant tests were due to faulty interpretation, not of albastix but of the S.S. test.

This paper strip test, requiring no glassware, no reagents, and no heat source, and being standardized, constant, and stable as a testing agent, has obvious advantages which will commend it for more general use in hospital and domiciliary practice. Any slight increase in cost per test carried out is amply compensated for by its speed, reliability, and portability.

I am indebted to Mr. D. H. Vobes, of Ames Company (London) Ltd., for the supply of albastix strips, to Dr. S. C. Frazer for his advice, and to Sister Kathleen Rose for her enthusiastic help.

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