

Nitrazepam in Enuresis

SIR.—Nocturnal enuresis is a common paediatric problem causing much inconvenience to mother and child alike. Unfortunately this disorder is rather resistant to medication, and for practical reasons child psychiatric treatment is not always possible. Accordingly, a search for drugs which might have an effect on enuresis seemed called for.

In our unit for paediatric psychiatry a large clinical study of problems involved in enuresis, with complete urological, E.E.G., and psychosociological investigations, has been in progress for several years. It was decided to make use of these facilities in testing whether or not nitrazepam is effective in enuresis. This drug was originally intended as a sedative for children, but has later been largely used also to treat convulsions in infants and young children.

The pilot study was performed on 20 enuretic children of normal mental development and with no urological malformations. Nitrazepam was given for six weeks in oral doses of 2.5 mg to children aged 4-6 years and 5 mg in the age group 7-14 years. The higher dose in particular was found to have a significant effect on nocturnal primary enuresis when compared with a placebo. A double blind clinical trial of nitrazepam in childhood enuresis has been started, and the results will be reported and the neurophysiological aspects discussed in due course.—I am, etc.,

OLE WASZ-HÖCKERT

Department of Paediatrics,
University of Oulu,
Finland

Pre-peritoneal Prosthetic Herniorrhaphy

SIR.—I should like to give an interim report on experience with a pre-peritoneal prosthetic herniorrhaphy¹ over a three-year period. The technique has been described elsewhere.²

A total of 234 groin herniae in 214 patients have been operated upon; 20 had bilateral herniae. There were 217 inguinal herniae (70 direct, 147 indirect); 27 of these were recurrent and 4 were strangulated. Seventeen herniae were femoral, one of which was recurrent and three were strangulated. Five herniae were en glissade; five patients had accompanying umbilical hernia simultaneously repaired by upward extension of the mid-line incision; one of these patients had bilateral inguinal and an umbilical hernia repaired (a triple hernia repair) all through the same incision. The oldest patient operated upon and who also had a simultaneous prostatectomy was aged 95 years. In 4 patients permanent cure was not obtained. These patients were operated on early in the series at a time when the details of operative technique were being developed. It is hoped that with greater familiarity with the technique the ideal outcome may yet be attainable.

With this reservation experience with the operation over a three-year period has been favourable and enables some conclusions and observations to be made.

The same operation is applicable to all types of groin hernia and their complications. Operations on bilateral herniae are facilitated as the midline incision gives equal access to both sides. By virtue of the access

afforded relief of strangulated hernia and resection of nonviable gut when necessary is rendered easier. Operations for recurrent hernia are not bedevilled by the scar tissue of the previous standard operations. Sliding hernia (hernia en glissade) are appreciably easier to operate on by this approach. Sepsis and chronic sinus formation have not been a problem, and first intention healing has been the rule with few exceptions. In no instance has it been necessary to remove the Marlex mesh. Concomitant procedures such as prostatectomy and appendectomy can be carried out with confidence. The mid-line lower abdominal incision provides rapid access to the target area; misgivings about possible development of incisional hernia have proved unfounded, the wound being sutured with continuous monofilamentous nylon and the cut ends buried, for which manoeuvre a special instrument has been

devised available from Down Bros. Mayer and Phelps Ltd.

Postoperative management is directed to early ambulation and return to work. The patient gets out of bed as soon as he feels inclined to do so, usually the first post-operative day, and is allowed to go home if the home circumstances are favourable at any time after the second postoperative day, returning the following week to the out-patient clinic for removal of sutures.

Patients with sedentary occupations return to work on the average two weeks after the operation and manual workers in three weeks.—I am, etc.,

L. F. TINCKLER

Frenchay Hospital,
Bristol

1 Tinckler, L. F., *British Medical Journal*, 1968, 2, 832.

2 Tinckler, L. F., *Postgraduate Medical Journal*, 1969, 45, 664.

3 Gibbon, N., *British Medical Journal*, 1969, 1, 187.

Bone Density and Long-term Anticonvulsant Therapy

SIR.—Professor C. E. Dent and his colleagues (10 October 1970, p. 69) report the finding of osteomalacia in patients with epilepsy and suggest that enzyme induction caused by long-term anticonvulsant therapy increases the inactivation of vitamin D. Their data include biochemical studies and bone biopsies, but to the best of our knowledge no quantitative measurement of bone density in epileptic patients assessed by gamma-ray osteodensitometry has been published.

bone density expressed in arbitrary units. The results are shown in the Table.

In the group of epileptic patients the mean values of bone density units were significantly lower than in the two control groups. No significant difference was found between the psychiatric patients and the normal persons. Our preliminary findings of low bone density in patients receiving long-term anticonvulsant therapy indicates decreased bone mineralization in these patients and seems to

	Heel Scan	Elbow Scan	Average Age (yr)	No. of Patients
Epileptic patients	19.1 ± 3.5	15.0 ± 3.7	45.4	9
Psychiatric patients	31.0 ± 6.3	19.0 ± 2.6	47.4	10
Normal persons	27.4 ± 6.1	21.2 ± 4.3	44.0	22

The values are given as mean ± S.D. Epileptic patients compared to psychiatric patients: Heel P < 0.001, Elbow P < 0.02. All patients were women.

We have studied a group of epileptic patients treated 10 to 15 years with phenytoin, phenobarbitone, primidone, and carbamazepine. A control group of psychiatric patients resident in the same epileptic colony during the same period with equal food and vitamin supply treated with chlorpromazine and related drugs were also studied and compared with a group of normal persons. An ¹²⁵I source of gamma radiation (Studsvik, AB Atomenergi Sweden) was used for scanning of the right heel and elbow, and the

support the results of Professor Dent and his colleagues.—We are, etc.,

J. LINDE

J. MOLHOLM HANSEN
K. SIERSBAEK-NIELSEN
V. FUGLSANG FREDERIKSEN

Medical Department E,
Frederiksberg Hospital,
Copenhagen

Department of Epileptic Diseases,
Department of Psychiatry,
The Filadelfia Colony Dianalund,
Denmark

Screening with Reagent Strips

SIR.—The use of laboratory testing to determine the presence of undiagnosed diseases in apparently healthy populations has been used increasingly in recent years in Europe and the U.S.A.¹ From the point of view of underdeveloped nations, many of the techniques are impracticable, as they involve expensive equipment and trained personnel. We have therefore conducted a pilot experiment to determine the value of commercially available laboratory reagent strips for urine analysis that are cheap to purchase and can be used by relatively untrained persons. The product used in the present study was Labstix (Ames Company), which has five tests on each strip: for pH, protein, glucose, ketones, and blood.

Two technicians visited 11 secondary

boarding schools in different areas of Zambia: Lusaka, Ndola, Luanshya, Chipata, Kariba, and the Western Province. In all, a total of 2,056 apparently healthy children were seen, aged between 12 and 20 years. A urine sample was obtained from each, and the reagent strip applied at once and read on the spot. The results of the survey are set out in the Table.

It will be seen that eight children had glycosuria, which in all cases was medium to heavy. In one child the glycosuria was accompanied by ketonuria. It is likely that all eight children have, or are developing, diabetes mellitus.

By far the commonest pathological finding was haematuria, often accompanied by proteinuria. In Central Africa the most likely

cause of haematuria is bilharzial bladder damage due to *Schistosoma haematobium*. In order to investigate this association, checks were made on a series of urine samples that had given positive reactions for blood. Microscopic examination revealed the presence of schistosome eggs in the sediment collected by centrifugation from about 75% of the samples studied.

Test	Total Male 1,433		Total Female 623	
	Normal	Abnormal	Normal	Abnormal
pH ..	1,416	17	613	10
ketones ..	1,433	—	622	1
glucose ..	1,427	6	621	2
protein ..	1,353	80	527	96 (92)*
blood ..	1,327	106	514	109 (84)*

*Girls who were menstruating at the time of the test have been subtracted from the abnormal totals.

A previous study in Tanzania² has indicated the presence of irreversible bladder damage in school children in whom genito-urinary bilharziasis had gone untreated. The association between bilharziasis and bladder carcinoma is well known, and in Zambia examination of the Cancer Registry at Lusaka reveals that approximately 12% of all cancers in recent years were bladder carcinoma, moreover many were in young adults. The importance of the early detection and treatment of bilharziasis cannot be overemphasized.

In Zambia, one reagent strip costs 4·6 ngwee (about 2·7p). Thus, at a total cost of 95 kwacha (approximately £56), plus the cost of two technicians' time and transport, it was possible to screen 2,056 children and find hidden disease in 206, all of whom required further investigation, and most treatment.

We strongly recommend the use of reagents strips for routine health screening in underdeveloped regions.

This work was conducted as part of the surveys of the Zambian National Food and Nutrition Commission and we are grateful to the Executive Secretary for permission to report the findings.—We are, etc.,

MAXINE BRIGGS
MARY CHADFIELD
DIANA MUMMERY
MICHAEL BRIGGS

Department of Biochemistry,
University of Zambia,
Lusaka, Zambia

¹ Kawerau, E., *Automation in Analytical Chemistry*. New York, Medind Inc., 1968.
² Forsyth, D. M., and Bradley, D. J., *Lancet*, 1964, 2, 169.

Acid-base Status and Azostix

SIR,—We wish to bring to the attention of users of Azostix reagent strips a rare source of possible interference with this test—the patient's acid-base status.

On some of the patients whose acid-base balance is severely disturbed towards acidosis, Azostix reagent strips may give an underestimate of the blood urea concentration. If the severe disturbance is towards alkalosis there is a small chance of a slight overestimate.

This information is being added to the package leaflets. It is hoped that our paper giving a full account of the work will soon be published; meanwhile the evidence may

be obtained from either of the authors below.—We are, etc.,

S. M. HALL

Department of Pathology,
Sefton General Hospital,
Liverpool 15

I. W. PRESTON

Miles Laboratories Ltd.,
Slough, Bucks

Gall Stones after Peptic Ulcer Surgery

SIR,—I have read Mr. E. S. Field's article (27 March, p. 708) with great interest.

In this part of the world peptic ulcer is at least ten times more common than gall-bladder disease. The numbers of operations performed in this hospital over the past six years for these two groups of diseases were 149 and 13 respectively. Of the 13 gall-bladder operations, one was for a gall stone developing in a man 31 months after vagotomy and gastrojejunostomy for duodenal ulcer; but as many as three were for gall stones found at the time of peptic ulcer surgery and performed at the same time.

It certainly appeared that in these four patients cholelithiasis was secondary to peptic ulcer or its operative treatment. But could it not be that both peptic ulcer and gall stones were produced by the same aetiological factor(s)? This may explain the occurrence of gall stones also after peptic ulcer surgery which does not remove the factor(s).—I am, etc.,

ARABINDA MITRA

Tagore Hospital,
Kondagaon,
Madhya Pradesh,
India

Cerebral Atherosclerosis

SIR,—As your article on cerebral vasodilators (Today's Drugs, 19 June, p. 702) points out, these drugs affect the cerebral blood flow only when there is an element of arteriospasm, and although of great benefit they cannot reverse existing atheroma.

I have found¹ that corn oil in large doses (2 fluid ounces (57 ml) of a 50% emulsion of corn oil four times a day) results after a month in a significant reduction of disorientation, irritability, and incontinence in patients with cerebral atherosclerosis. Presumably, this occurs as a result of the slow solution, in accordance with the law of mass action, of cerebral artery atheromatous plaques.—I am, etc.,

H. DALE BECKETT

Cane Hill Hospital,
Coulson, Surrey

¹ Beckett, H. D., *Journal of Mental Science*, 1962, 108, 229.

Haemodialysis/Transplantation Programme

SIR,—We should like to thank Dr. R. R. West (24 July, p. 247) for his most detailed and helpful comments on our paper "Statistical Approach to Planning an Integrated Haemodialysis/Transplantation Programme" (19 June, p. 671). We found it most encouraging that his careful analysis did not produce any fundamental criticisms of the Markov chain approach.

He raised three points. Firstly, that there were several minor errors in the text and tables. We attempted to remedy this by publication of corrections (17 July, p. 200).

The second was that he considered certain important probabilities did not appear

to fit the data from which they were derived. This referred to both dialysis and transplant survival. We initially analysed the patients undergoing dialysis at the London Hospital until 31 October 1970. Renal transplantation excluded them from subsequent consideration. We selected a figure of 0·98 for long-term dialysis survival and this was originally fitted to the histogram by eye. We also fitted the curve using regression analysis and arrived at figures of 0·983 for months 6-24 and 0·991 for months 6-30. This analysis has two advantages. The first is that by allowing the probability of survival in month 6 to vary a better fit over subsequent months can be obtained. The second is that the method also attaches less weight to each successive month and this to some extent takes account of the diminishing sample size. The method Dr. West suggests of taking a simple monthly average incorporates neither of these advantages.

The transplant survival data were based on the Edinburgh series.¹ There were several disadvantages, including the fact that the donor population included both live and cadaver donors and also that the average age of recipients was lower than elsewhere. Nevertheless, this series allowed us to calculate monthly probabilities. The data presented gave details of 35 patients. We excluded two patients, one who received two transplants and another who, following rejection, was returned to dialysis, because in each case there were insufficient data. Of the remaining 33 patients 19 had died by the end of the series (1 June 1968). None of these returned to dialysis following rejection—a situation which is quite atypical of current practice. So for this series patient and graft survival were identical. We then used this information to represent graft survival for the estimation of the various monthly probabilities. It was then necessary to determine what proportion in future of these patients whose grafts were rejected would die or be returned to dialysis. We selected a figure of 20-80%. This then allowed us to calculate the expected patient survival. For months 1, 2, 3 this gives values of 97%, 94%, 90% and this agrees with other published and unpublished series. However, it does not represent patient survival in Edinburgh before 1968.

Dr. West's third point involves the calculation of confidence limits. We presented 95% confidence limits based on the mean probabilities in each state as it was not then possible to calculate the error for each probability in the matrix on the limited data available. In future the individual errors will be incorporated in the final estimate of confidence limits.

In conclusion, we should like to emphasize that the purpose of our paper was to demonstrate the method of a particular approach. Probabilities were selected merely to help illustrate the method. They were, however, based on small samples of patients. Before we can use the model for useful predictions it is vital that large series of patient data should be analysed.—We are, etc.,

S. C. FARROW
D. J. H. FISHER
D. B. JOHNSON

Department of Nephrology,
London Hospital,
London E.1

¹ Woodruff, M. F. A., Nolan, B., Robson, J. S., and MacDonald, M. K., *Lancet*, 1969, 1, 6.