cause. There is already apparent some tendency to adopt such an attitude, and even to look upon it as yet one more example of failure of bodily adaptation to stress (Selye, 1951).

As to its treatment, recent reports of initial success with cortisone or A.C.T.H. (Siltzbach *et al.*, 1951 ; Lovelock and Stone, 1951 ; Small, 1951) are encouraging, but it is too early yet to assess their real value. No remedy used in the past has proved of an unequivocal value.

Summary

Neurological complications in sarcoidosis are occasionally met with, more commonly in the uveoparotid form of the disease than in other variants. Most often they are of the peripheral neuritic type, but disorder of central nervous function also occurs, with symptomatology proper to the region involved. Four clinical case records are presented by way of example. Sarcoid lesions in the nervous system, whether in nerves or cerebrospinal axis, are the same in histological structure as those seen in other tissues, and, like the latter, presumably represent reaction of indigenous mesenchymal elements to whatever may be the cause (or causes) of the syndrome of sarcoidosis.

I wish to express my thanks to Professor P. C. P. Cloake, Professor W. H. Wynn, Dr. Ernest Bulmer, Dr. J. M. Malins, and Mr. J. M. Small for access to their case records and for the opportunity of examining patients under their care.

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Attention has once again been drawn to the relatively high cost of German medical and scientific periodicals (Bonser and Russell, *Nature*, 1952, **170**, 446). As long ago as 1928 Dr. W. Bonser remarked on the exorbitant cost of German periodicals, and his efforts achieved a reduction of some 20% by 1933. While there is a slight rise in the cost of British and American journals since 1933, due to increased cost of production, the ratio of increase of German periodicals compared with British is over 4 : 1. Before the war complaints were not only of the excessive cost but also of the impossibility of computing the annual cost, owing to irregularity in the number of volumes per year. This same state of affairs exists to-day. "We are sure that it will be agreed that their (German scientists') output is as essential to research as that of other countries, and curtailment of its circulation owing to prohibitive costs is to be deplored."

A NEW DIABETIC CHART

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Practically every physician having charge of diabetics uses a different form of chart for recording the results of tests and treatment given during the course of standardization in hospital. The amount of detail given on the chart, and the guidance given to those using it, will depend not only on the ideas of the physician in charge but also on the circumstances in which it is used. Our problem is the treatment of a large number of diabetics, many of whom are scattered in numerous non-medical wards throughout a large general hospital. In these wards the nursing staff, and in many cases the medical staff, have had little experience in the practical management of diabetes, and it is left to us to supervise the treatment. Partly to meet this difficulty, but also for use in the numerous medical wards, we have devised a new chart, which we feel is worth publishing as it embodies several principles, as well as details, which we have not previously seen. Our aim has been to make it an easy chart to fill in and to read, and at the same time to allow flexibility so that it may be easily adapted to meet the varying requirements of different patients, different stages of standardization, different meal-times, and out-patient use.

Diet Panel

For most of our cases we use a simple unweighed diet, as devised by R. D. Lawrence (1950). This allows an average intake of protein and fat (except in obese cases), and detailed restriction is of carbohydrate only. The carbohydrate is allowed in "portions," each containing approximately 10 g. The number of portions allowed at each meal is recorded in the first column of the diet panel, and if the diet is altered during the period covered by the chart the revised allotment is recorded in the second column, the date of change being written at the top of the column. The revised allotment is, of course, put in the first column of the succeeding chart.

The size and isolation of the panel make it stand out clearly, so that doctors, nursing staff, and patients can see at a glance the carbohydrate allowance at each meal and the time at which it is taken.

Times of Urine Specimens

The most important innovation on the chart is that it draws the attention of all concerned to the importance of *the time over which any specimen of urine is actually secreted.* Blank spaces are provided for recording not only the time at which specimens are passed but also *the time at which the bladder was previously emptied.* We have found this a much more satisfactory method than having fixed times printed on the chart, as the physician may then choose the time of routine urine tests to fit in with whatever meal-times occur in the different wards. He may also arrange to observe either "short-period" or "long-period" specimens, depending on the type of case with which he is dealing. As a routine we arrange for short-period specimens to be tested before the main meals of the day, the bladder being completely emptied half an hour before the

Name .....

DIET

Time	Meal	CARBOHYDRATE 10-gramme portions: At start of present Chart	CARBOHYDRATE 10-gramme portions: Altered on Date :
	Breakfast		
	Mid-morn.		
	Dinner		
	Tea		
	Supper		
	Bed-time		
TOTAL			

WEIGHT

Date	St.	Lb.

Date								
Time urine passed								
Time bladder previously emptied								
Benedict's Test	Red 2% (or brown)							
	Orange 1½%							
	Yellow 1%							
	Green 0.5% (cloudy)							
	Blue 0% (or clear green)							
Nitroprusside test								
Ferric chloride test								
Insulin	Time							
	Dose							
	Type							
24-hourly spec. of urine	Total glucose excreted in 24 hrs.							
	Acetone Bodies							
	Albumin							
Blood Sugar	Time							
	Mg./100 ml.							
Urine Sugar (Benedict's) (Bladder emptied half an hour previously)								
Other Data (e.g., Hypoglycaemic Attacks, with time, etc.)								

Continued for Seven Days.

Recordings on Chart

Results of Urine Tests.—The results of Benedict's test for sugar are recorded in graph form like a temperaure chart, a dot being placed in the middle of the appropriate square, depending on the colour of the reaction. We feel this is a much neater, more objective, and clearer method than the more usual +, ++, +++ scheme, which, however, we retain for the nitroprusside and ferric chloride tests.

Insulin Dosage.—Space is provided for recording the time, dose, and type of insulin (as S.I., P.Z.I., and G.I.) in two large squares for morning and evening. Each of these squares is subdivided into three, so that four-hourly injections may be easily recorded in the treatment of severe ketosis.

Twenty-four-hour Specimens.—We have found the estimation of the total amount of glucose excreted in 24 hours a useful index to the response of cases to diet alone. When a case is admitted which is regarded as suitable for treatment on diet alone, all urine passed in the first 24 hours is collected in a Winchester bottle prepared with fluoride or thymol as a preservative. The laboratory tests the specimen for albumin and acetone, and estimates the total glucose in grammes excreted in the 24 hours. This procedure is repeated about twice a week, and treatment by diet alone continued so long as the figure is decreasing. Marked decreases can occur in the actual quantity of glucose excreted in the 24 hours before there is any change in the routine daily qualitative tests, and we think the more frequent use of this simple procedure may help to avoid the unnecessary use of insulin in a number of diabetics.

specimen is collected. The time of the preliminary emptying is recorded on the chart, its importance thereby being clearly emphasized to the nursing staff and patient, and the period over which the specimen has been secreted being immediately obvious to the observer. Occasionally there is difficulty in obtaining specimens half an hour after emptying the bladder, especially with women, and in these cases the time is increased to an hour or even longer, and the patient's fluid intake increased at the appropriate time. It is then most unusual for further difficulty to be experienced.

With these tests the aim in standardization may safely be to increase the insulin dosage until at least some of these specimens are free of sugar. We feel it is often not sufficiently emphasized to staff and patients that most diabetics satisfactorily standardized on insulin will pass sugar in the urine after a meal, and therefore no attempt should be made to render a long-period specimen sugar-free, or hypoglycaemia is likely to occur. If a chart does not clearly show the period over which any particular specimen is secreted there is bound to be confusion over the significance of results and the action to be taken.

The chart provides space for six tests a day for seven days, but we commonly only use four, leaving two blank. When used by out-patients, testing only two specimens a day, the daily date section is divided into three days, and the chart will last for three weeks.

Blood Sugar.—Space is provided for recording the time the blood was taken, the blood-sugar result, and a simultaneous short-period urine test for sugar. These are grouped together because consideration of the results gives some indication of the renal threshold. When the urine is sugar-free it is obvious that the blood-sugar figure is below the renal threshold. But when sugar is present there are two possibilities. Either the blood-sugar figure is above the threshold or the blood sugar *was* above the threshold at the beginning of the period of secretion of the urine specimen but has been falling quickly and is below by the time the estimation is made. If, therefore, sugar is present in the simultaneous urine specimen a further urine test is necessary before an assessment of the renal threshold can be made. This second specimen should be passed as soon as possible after the first, usually 20 to 30 minutes, and, of course, no food should be taken during this time. Sugar in the second specimen shows that the blood-sugar figure is above the threshold; if sugar is absent the figure is below. This method probably gives as accurate an assessment of the renal threshold in relation to a single blood sugar as possible, but it should be remembered that if the bladder is not completely emptied each time urine is passed the results will be false.

Other Data.—Space is provided at the bottom of the chart for recording any other details, such as hypoglycaemic attacks, intravenous therapy, blood pressures, blood urea, and other investigation results.

Notes on the Back.—We have found it helpful to print notes on the back of the chart giving guidance in its use, and also giving details of Benedict's test, the nitroprusside test, and the ferric chloride test. There are also included details of a regime to be employed for severe ketosis, when soluble insulin is advisable every four hours but the patients are able to take feeds by mouth. Such treatment, once instituted by the doctor, can then be continued by the nursing staff.

Comments

At first sight the chart may appear somewhat complex, but in practice the members of our nursing staff have received it with enthusiasm, and have found it extremely simple to use. We feel that any sister who is not prepared to keep it accurately is unsuitable to nurse diabetics. It has also been found very helpful in instructing the junior staff.

The chart is a large one, but we have found this no disadvantage, as special boards have been made on which to mount it. Before we had the special boards quite satisfactory results were obtained by mounting it on a piece of cardboard with paper clips. In actual practice, its size makes it easier to fill in and clearer to read.

Summary

A new form of diabetic chart for use in hospital standardization is described and illustrated.

Stress is laid on the importance of recording on the chart the time over which specimens of urine are secreted. This is achieved by providing space for the time the bladder was previously emptied as well as the time the urine specimen was passed.

Attention is drawn to the fact that most diabetics satisfactorily standardized on insulin will have glycosuria immediately after a meal, and therefore, as a routine, short-period specimens before meals are the most helpful.

A simple method is described for determining the relation of the renal threshold to a single blood-sugar result.

We would like to thank the Central Wirral Hospital Management Committee for its willing co-operation in the production of this chart.

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Seventy-eight Japanese patients with radiation cataracts caused by the atomic bomb dropped on Hiroshima have been re-examined, five years after the explosion, by the medical department of the Atomic Bomb Casualty Commission clinic in Hiroshima (*Science*, 1952, **116**, 322). This group of patients was almost entirely drawn from the 922 survivors who were at less than 1,000 metres (1,094 yd.) from the hypocentre of the explosion: among these there was an incidence of cataract of 9.8%. On the day of the explosion at least half of the 78 patients re-examined had experienced fever, purpura, epilation, amenorrhoea, and vomiting, which suggested that they had received severe irradiation. The fact that all except one of the 78 patients suffered from scalp epilation is noted. Although the "shielding factor" was not studied specially, it is recorded that there were no cataracts in survivors who were in a large concrete building 800 metres from the hypocentre of the explosion. When this follow-up study was made there was no evidence of blood dyscrasias in the patients with radiation cataracts; in fact, radiation cataract was the only finding attributed to the late effects of the atomic bomb.

Medical Memoranda

Chronic Arsenical Poisoning Due to Prolonged Administration of a Bromide and Arsenic Mixture

As a result of the introduction of numerous new drugs and of the vast increase in consumption of medicines by the general public, cases of drug intoxication have become extremely common. The use of bromides has diminished a great deal, partly because of the increasing use of barbiturates, but even when a bromide mixture was the stock sedative chronic arsenical poisoning as a result must have been very rare. The following case is therefore worth recording.

Case Report

A woman aged 59 was admitted to hospital on April 12, 1951, complaining of various symptoms since October, 1950, including palpitations, tiredness, nausea, and vomiting of watery fluid. By December her weight had fallen from 9 st. to 7 st. 2 lb. (57.2 to 45.4 kg.), and at that time she noticed brown pigmentation of the skin of the back. In February, 1951, she had palpitations, nausea, and flatulence, but no vomiting; lassitude was severe, and the pigmentation of the trunk was more pronounced. The patient had had pneumonia at 13 years, a hysterectomy at 31, and paralysis of the legs with severe pains in the back at 35—no further details of the latter could be obtained, but the history suggested an attack of sciatica. She smoked up to 30 cigarettes daily and took little alcohol.

On clinical examination she was seen to be a thin, active, talkative woman. She had generalized brown pigmentation of the skin, particularly well marked over the lumbar region and over the upper part of the abdomen. There was no pigmentation within the mouth. Very little axillary hair remained, but in other situations the hair was normal. The heart was normal and the blood pressure 190/90. The lungs and abdomen were normal. The nervous system was normal, except that the tendon reflexes were slightly diminished; there was no sensory disturbance.

Various investigations were carried out: the urine was normal chemically and microscopically; blood count normal; glucose-tolerance test normal; blood Wassermann reaction negative; chest *x*-ray film normal.

As the commoner causes of pigmentation of this type had by now been excluded, the possibility of chronic arsenical poisoning was considered. On close questioning the patient confessed that about 18 years before a mixture had been prescribed for her "nerves"; she had found this very satisfactory and had continued to take it regularly each night without further reference to her doctor. The prescription proved to be as follows: sodium bromide, 10 gr. (0.65 g.); chloral hydrate, 5 gr. (0.32 g.); liquor arsenicalis, 2½ minims (0.15 ml.); extractum glycorrhizae liquidum, 5 minims (0.3 ml.); aqua chloroformi ad ½ oz. (1 ml.). A specimen of the patient's hair was forwarded to the Liverpool City analyst, who reported that the arsenic content was much increased, and contained arsenic equivalent to eight parts of arsenic trioxide per million.

The bromide mixture was discontinued and there was an immediate improvement in her condition. When she reported at the out-patient clinic on June 27, 1951, she was free from palpitations and was sleeping well. The pigmentation was much less marked. Her weight had increased from 7 st. 2 lb. (dressed) to 7 st. 9¾ lb. (undressed) (45.4 to 48.9 kg.).

Comment

It is of interest that this woman continued to take the mixture regularly each night for many years without any further reference to her doctor. She would thus take about 1/38 gr. (1.7 mg.) of arsenic trioxide daily for a period of over 17 years before toxic effects were produced. Clinically many of the characteristic features of chronic arsenical poisoning were absent—there was no neuritis, no pharyngitis