

tion, it is suggested that the use of such an apparatus might to great advantage become more general, not only in private practice, but in hospital circles. Used rightly, such a lamp is certainly a powerful and valuable addition to therapeutic resources, as an easily available and ever ready substitute for actual heliotherapy. Its indications would seem to be those of sunlight itself.

Therapeutic and Preventive Medicine.

THE TREATMENT OF OBESITY BY A RATIONAL DIET.

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IN the treatment of obesity, the object aimed at is the combustion of a definite amount of surplus fat in the body, and the prevention of its reaccumulation. Regulation of the diet constitutes the essential part of this treatment.

It would be an easy matter to calculate the formula for reducing the fuel value of the food intake, if oxidation in the body were always regular and uniform. In such case the amount of reduction would have a caloric value, equal to that of the quantity of body fat which it is desired to burn up. For example, if the reduction in weight desired is at the rate of two pounds a week, which means the combustion daily of about four and a half ounces of body fat, the fuel value of the daily ration would have to be reduced about 1000 calories below the normal for size, age and activity. But the oxidation of fat in the body is not always regular and uniform, and does not always respond promptly and fully to the demands made on it by partial starvation. Extensive variation of this oxidation in different individuals is a matter of common observation: frequently small eaters are seen to remain persistently stout, while large eaters as persistently remain thin. Nevertheless, the formula suggested serves as a basis on which to work out the best formula for the individual case.

Measures to improve oxidation in the body are called for in the treatment of obesity; and as all metabolic processes are more or less under control of the internal secretions, such measures are directed very properly toward improving the condition or action of the glands which produce those secretions. This means, as regards diet, regulation of the quality as well as quantity of the food, so as to diminish, in particular, the toxemias of alimentary origin which could injure those glands or disturb their functions. This is effected mainly by restriction or exclu-

sion of articles of food of animal origin excepting milk and its products.

The following practical suggestions for regulating the diet in obesity seem in harmony with the facts and principles above alluded to.

Bear in mind that regulation of the diet is the principal thing in the treatment of obesity, and that this regulation should be qualitative as well as quantitative.

Insist on scales and measures being used to secure accuracy in carrying out the dietetic prescriptions.

Do not rely for protein chiefly on animal tissues and eggs, as is done in most obesity diets, but secure protein chiefly from milk and its products, which supply all the different amino acids needed by the body and are relatively easy of metabolism, being free from purins and comparatively insusceptible to putrefactive processes in the alimentary canal. If no other morbid condition is obviously present, a small amount of animal tissues or eggs may be included in the diet; but in cases complicated by obvious insufficiency of nitrogenous metabolism (as shown by gout, gravel, migraine, arteriosclerosis, chronic nephritis or hepatic insufficiency), or by disease of the alimentary canal, which increases the habitual production in that canal of putrefactive poisons and their absorption therefrom, the amount of flesh and eggs should be very small indeed or they should be excluded altogether. Such qualitative regulation of the protein ration for the special purpose of easing the burden of nitrogenous metabolism, is a cardinal principle in this method of treating obesity and its distinguishing feature.

Include plenty of fresh fruits and vegetables in the diet, in order to supply full rations of the body salts and vitamins; but use careful selection so as to include only fruits and vegetables which are comparatively free from objectionable qualities, such as indigestibility, possession of purin or oxalic acid content, and offensiveness to the patient's idiosyncrasies.

Allow water to be drunk in ordinary quantities.

Begin the treatment by restricting the fuel ration so as to supply about 1000 calories less than the minimum health ration for the particular patient.

Do not reduce the quantity of protein much below the minimum health ration, but let the loss fall chiefly on the fat and carbohydrate.

Do not, as a rule, try to reduce the weight by more than two pounds a week, on the average. Such a moderate reduction is not often attended with any unpleasant consequences.

Bear in mind the exceptions which exist in regard to reducing weight: be cautious in reducing the weight of those afflicted with serious diseases; relax the rigidity of the diet or discontinue all attempts at reduction; if in the course of treatment symptoms of distress or weakness

appear (which does not often happen with this plan of treatment); and do not, as a rule, attempt to reduce the weight of those entering on old age who have been obese for a considerable time.

In most cases allow occasional periods of rest from the rigid diet, and while giving the minimum health rations, take note if the weight increases in consequence.

A series of dietetic prescriptions for obesity, devised by the writer in accordance with the above suggestions, have the food values shown in the index table given below. These prescriptions readily lend themselves to modifications for individual needs. The numbers in the main column of protein values refer to protein derived from milk, cereals, fruits and vegetables; and the numbers after the plus signs in the same column refer to protein derived from animal tissues and eggs. It will be seen that the protein derived from the latter sources is greatly restricted in this plan of treatment.

INDEX OF OBESITY DIETS.

Prescription Number	Protein grams	Fat grams	Carbohydrate grams	Calories
I	50	32	112	975
II	50+4	36	113	1000
III	50+14	41	113	1100
IV	58	40	125	1125
V	58+4	42	125	1150
VI	66	44	136	1250
VII	62+14	48	125	1275
VIII	65+14	52	140	1375
IX	76	51	170	1400
X	76+14	58	170	1525

Clinical Department.

THE STREPTOCOCCUS MUCOSUS CAPSULATUS AS A CAUSE OF MASTOID DISEASE.*

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ACCORDING to my experience the streptococcus mucosus capsulatus is the most insidious and destructive germ with which the otologist has to contend, and the question of an operation, when the mastoid cells are involved, is a most important one.

In 1905 Dr. George Sloan Dixon published in the *Archives of Otolaryngology*, Vol. xxxiv, Part 6, a paper entitled "Report of a Case of Panotitis Resulting in Meningitis, with Pathological Findings," in which he reported the case of a nurse who was under my care in the New York Eye and Ear Infirmary. She entered the hospital on February 7, 1904, and gave a history of an acute

* Read at the annual meeting of the American Otological Society held in Washington, D. C., May, 1916.

attack of otitis media which had begun six weeks previously. She had labyrinthine symptoms which, with the knowledge we have today, would have warranted an operation. There was no mastoid tenderness. On the fourth day after admission meningitis developed, and she died almost immediately.

In this paper Dixon says: "This case seemed to call for an examination of my bacteriological examinations during the past four years. They were found to comprise about 1050 cases of acute and chronic purulent otitis, with and without mastoiditis; 2.75% of the infections were Friedlander's pneumococcus, or, more properly, the bacillus mucosus capsulatus." Of 30 cases due to the bacillus mucosus capsulatus, 15 had existed for 42 days or over, before operation. Of these, two had perisinous abscesses with Bezold perforation; one had perisinous abscesses and cortical perforation with subperiosteal abscess; four had epidural abscess (one of which died of meningitis); one had panotitis and died of meningitis; and one had brain abscess and also died. Six cases had periosteal abscess.

Dixon further says: "Of those cases which had existed under 42 days, four promptly recovered after paracentesis, but mastoid operation was required on the remaining ten, and all did well except one patient who died of pneumonia."

Such a report only emphasizes the virulence of this germ, and since that time I have taken particular pains to watch these cases most carefully, especially with reference to an early operation.

During the years 1914-1915, I had the four following cases in private practice:

CASE 1 was that of Caroline R., aged 5, who was seen by me in consultation on May 12th. She had had lobar pneumonia one month before when both ears had been affected, and there had also been an acute inflammation of the throat and enlarged glands in the neck. The right ear had cleared up, but the left had been discharging for about three weeks. The left membrane had ruptured spontaneously two weeks before I saw her. There was slight tenderness over the mastoid tip, the temperature had been rising, a little higher each day, from 99.2° in the morning to 101 or 102 in the afternoon, and a culture showed that the streptococcus mucosus capsulatus was the cause of the infection. A simple mastoid operation was performed that same day at the Infirmary. As soon as the tip was opened pus poured out. There was a very large cavity and the whole mastoid cells were involved; softened bone and granulations were everywhere. The wound was dressed in the usual way and the child made an uneventful recovery. Her temperature was 99° before the operation.

CASE 2 was that of S. L. P., aged 64, who came to me on April 15th, complaining of pain in the right ear, and giving a history of a feeling of fulness in that ear three days ago. Examination showed the membrane slightly red and swollen about the short process as well as the canal. There was also slight tenderness on pressure over the mastoid. He was given drops to use, but as the pain was not relieved,