

may indeed be able not only to add to our understanding of their pathology but to make an important contribution to our knowledge of duodenal ulcer with which the Roentgen studies in this series show the bands may be confused. In this respect Carman's recent exposition upon the subject of duodenal spasm seems to me particularly important. If duodenal defects, as seen in Roentgen examinations, are always to be held as due solely to ulcer, then trans-duodenal bands may be of little importance and can be held responsible for symptoms only when they obstruct the bowel. In other words, the failure to find ulcer in instances of duodenal defects accompanied by bands is due to the operator and not to the absence of ulcer. On the other hand, if bands themselves, through spasm, can be held responsible for duodenal defects, it is probable that many diagnoses of "duodenal ulcer," when a band is present, are incorrect. The evidence adduced by Carman, that duodenal defects are very generally spasmodic constrictions excited by ulcer, seems to me worthy of acceptance and in that case it is not too unlikely that a condition such as transduodenal band may bring about a similar spasmodic deformity. In the small Brigham Hospital series three instances of typical deformities were noted in the Roentgen studies and attributed before operation to ulcer. No ulcers were discovered at operation in these cases, which have already been described in full (Case v, Figure II; Case ix, Figures IV and V; Case xi, Figure VI). They, therefore, support the contention that bands, in the absence of ulcer, may, by exciting spasm, be responsible for the defects, and they even suggest that in the presence of a trans-duodenal band a diagnosis of duodenal ulcer must be made only on strong evidence.

CONCLUSIONS.

1. Congenital trans-duodenal bands may be responsible for symptoms "reflex" in type, which have, in spite of considerable divergence, a definite family resemblance.

2. Accompanying these symptoms the Roentgen findings very generally indicate duodenal spasm or dilatation of the first, or first and second, portion of the duodenum.

3. Division of the bands and appropriate treatment of raw surfaces is satisfactorily curative, but plastic operations to widen the opening into the duodenum probably give the best results.

4. Congenital trans-duodenal bands, judging from the frequency with which they are reported at autopsy, are not necessarily pathologic, but may be responsible for digestive disturbances having a recognizable symptomatology, a prolonged course, and appropriate operative treatment.

INDICATIONS FOR WET PACKS IN PSYCHIATRIC CASES; AN ANALYSIS OF ONE THOUSAND PACKS GIVEN AT THE PSYCHOPATHIC HOSPITAL, BOSTON, MASSACHUSETTS.*

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HYDROTHERAPY has been in use in psychiatric hospitals for a long time, and all sorts of methods and theories have been employed with more or less success. Of late years, since the more modern ideas about hydrotherapy have gained the upper hand, elaborate provisions have been made in up-to-date hospitals for the application of Scotch douches, shower baths, needle baths, and so forth, whose effect has been reinforced by the use of steam baths, electric light baths, hot air, massage, and mechano-therapy.

The favorable experience of Kraepelin with the prolonged bath, which has been corroborated by numerous hospitals all over the world, served to establish this method as one of the necessities of a modern psychiatric clinic. Wherever the baths are consistently and intelligently given, strikingly good results have been observed.

Indications for giving baths have not, however, been very definitely set, so that the custom differs somewhat in the various hospitals where prolonged baths are given in the routine fashion. In general, the chief indication for giving a prolonged bath is restlessness. A patient becomes excited, noisy and violent, and is placed in a prolonged bath. Indications for the pack, on the whole, are the same as for the bath, except that the pack is especially indicated when the patient's ability to coöperate, or his suggestibility, is reduced to a negligible quantity. Mere excitement does not mean necessarily that hydrotherapy should be resorted to. It has been established that the chief signs are loss of body heat and loss of water.¹ These two apparently go hand in hand, and cyanosis of the exposed portions of the body, especially the face, hands and feet, is an index of the rapidity and the extent of the process. Hydrotherapy conserves the body temperature. It prevents the evaporation of water from the skin. It probably replaces some of the water lost, and it offers a gentle, mechanical restraint against sudden or violent gestures or motions.

The wet pack, as it is usually given, consists of a number of sheets wrung out in water at about 100°F, and wrapped tightly around the patient's body and limbs—so that he cannot move anything except his head, fingers, and toes—and an outside wrapping of blankets pinned with large safety pins, so that the patient cannot roll out of them. When the patient is so restless and active that in spite of

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this, he is likely to fall out of bed in consequence of a flexion and extension of his entire body, a restraining sheet or blanket is placed over him and pinned to the sides of the bed, and the foot end of the pack may be attached by means of a blanket and safety pins to the cross bar at the foot of the bed. In this way, the patient is completely trussed and practically immobilized. In fact, this is so obvious, and the change from the violent agitation to the immobilization caused by the pack is so striking, that it must appear to many that the chief object of the pack is restraint, and is quite comparable to a strait-jacket or any other forms of restraint. As we shall see later, nothing can be further from the truth than this conception, and yet the similarity seems so great that even the attendants and nurses—not to say the physicians—frequently treat the pack as a form of restraint, and order it as a means of relief for themselves or the other patients from the disturbances caused by one who is merely noisy.

Where the degree of excitement is such that the gentle effects of the prolonged bath are not adequate, the restraining influence of the pack may be required to put the patient in the condition for the prolonged bath. The wet pack is applied for two hours. The patient is then removed whether he be still disturbed or not. If the patient has not fallen asleep or is not completely restored to quiet and self possession, he is then placed in the prolonged bath.

The ideal temperature for the prolonged bath is not over 98°F and not under 95°F. The water should be kept continually at this temperature, and the body should be immersed as far as possible in the water. The object of the pack is to produce an envelope of water or moisture-laden air at body temperature, and maintain this for the length of the pack. It has been shown that whether we start with cold water or warm water, the temperature of the pack readily adjusts itself to that of the body.² In cases of maniacal excitement, even though the patient may have fever, the surface of the body is losing large amounts of heat. It is wise, therefore, to start with hot sheets rather than cold sheets,—the idea being to conserve as much of the body heat as possible.

The patient should be given water to drink freely throughout the pack, and an ice-cap should be placed upon the head, and a cold compress on the forehead, which should be frequently renewed.

In cases of alcoholism or drug addiction, or in cases that have been exhausted by prolonged febrile diseases, there is a certain amount of danger from collapse in the pack. Following the experience in European clinics, as well as in this country, a hypodermic injection of digipuratum, or digalen has been given almost as a routine in these cases. The ordinary preparations of digitalis such as the powdered leaves, the tincture or the extract, require sometimes as much as twelve hours before the effect is ob-

tained. They are, therefore, useless for this purpose. The hypodermic preparations are much more prompt in their action, and have given excellent results. Since the outbreak of the war, however, it has been impossible to obtain these drugs except at prohibitive prices, and stimulation with strychnin or camphor has been resorted to in cases in which there seemed to be a danger of cardiac collapse.

While the physicians who have been employing the pack in a proper fashion have all become convinced of the fact that it is a valuable therapeutic measure and in no sense to be compared to mere restraint, they have found this difficult to prove in individual cases; and in the face of charges brought by paranoid patients or their relatives, they have found it difficult to convince a prejudiced by-stander of the difference.

With these ideas in mind, a closer study was made of a thousand packs that had been given in the course of routine management of the patients at the Psychopathic Hospital, and the results of this study are herewith presented. These cases were gathered from unselected clinical material in the order in which they were given, and represent 309 patients. As will be seen from the table, the diagnoses, organic and psychiatric, comprise a large variety, and only one factor was taken into consideration in the present analysis, namely,—whether the patient was quieted by the pack or not.

According to this analysis, out of 309 cases, 155 were quieted by the packs, 56 were not quieted by the packs, 98 were quieted by some and not quieted by others, or, in other words, had a partial effect.

For the sake of convenience, I have grouped only the main classifications together. It will be seen that cases diagnosticated manic depressive insanity and dementia praecox are very nearly equal in number—79 of the former, 82 of the latter. But 326 packs were given in the 79 cases of manic depressive insanity, with a quieting effect in 144, without quieting effect in 218 packs, whereas in the 82 dementia praecox cases, only 217 packs were given, with quieting effect in 143, and without quieting effect in only 74.

The same disproportion is shown by the cases of manic depressive insanity showing agitated depression. In 8 cases 26 packs were given, 8 with quieting effect, 18 without quieting effect. In all the other groups, including general paresis, delirium tremens, alcoholic hallucinosis, and epilepsy, by far the majority of packs had a quieting effect.

It would seem, then, that excitement in conditions other than manic depressive insanity is to be considered rather as a secondary manifestation, and one which is more easily controllable by hydrotherapy. Even in the cases of manic depressive insanity, of course, a quieting effect was obtained a large number of times, but the packs that were given without quieting effect outnumbered those that had a quieting

effect, indicating, thereby, also that the duration of the state of excitement and the intensity of the excitement are greater than in the other diseases.

These results are quite different from those obtained by the use of restraint without hydrotherapy. It is unnecessary here to recall the remarkable improvement in the condition of excited patients produced by the modern methods of non-restraint, in which diversion and occupation take the place of padded cells, strait-jackets, and strong rooms.

More to the point, perhaps, will be the startling figures obtained in a study of the treatment of delirium by hydrotherapy at the Psychopathic Hospital, Boston, compared to the results of the older methods of restraint and depressing drugs without hydrotherapy, employed at general hospitals. The mortality in general hospitals averages 26 per cent., the mortality in the Psychopathic Hospital, under hydrotherapy, more especially packs, averages 0 per cent.³

On account of these facts, it is safe to infer that hydrotherapy, whether applied in the form of prolonged baths or as wet packs, has a therapeutic effect, which is not to be obtained by mere immobilization of the patient or by restraint.

The question of restraint, of course, is an important one for administrative reasons. However, these figures prove that the wet packs not only cannot be condemned for reasons of cruelty, but that they are the most potent means of obtaining rest for a maniacal patient. The wet pack has been used at the Psychopathic Hospital consistently as an auxiliary to the prolonged bath, and bears the same relation to the latter that hypodermic medication bears to medication *per os*. A patient who cannot or will not swallow medicine may still derive the benefits from the drugs when they are administered subcutaneously. A subcutaneous injection of heart stimulant, for instance, may be applied against the wishes of an insane person. It may be applied in cases of unconsciousness and so forth. It offers a means of applying a therapeutic agent without the coöperation or even the consent of the patient. In the same way, the pack may be used to administer the beneficial effects of hydrotherapy, and in particular, of the prolonged bath, to patients who are so restless or excited that they cannot be induced to submit to the prolonged bath.

DIAGNOSIS	No. OF CASES	No. OF PACKS	QUIETING EFFECT	NON- QUIETING EFFECT
Dementia Praecox....	82	217	143	74
Manic-Depressive Insanity:				
Manic	71	336	136	200
Depressed	8	26	8	18
Alcoholic Hallucinosi	20	40	28	12
Delirium Tremens....	20	34	21	13
Alcoholism	5	7	6	1
Organic Dementia....	4	14	7	7
Senile Dementia.....	4	6	5	1
Involution	3	4	4	0
Epilepsy	8	14	12	2
Paraphrenia	2	3	3	0

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JOHN CLARENCE CUTTER, M.D.

BY SARAH H. POWERS.

DR. JOHN CLARENCE CUTTER was born in Warren, Massachusetts, July 10, 1851, eldest son of Dr. Calvin Cutter, the author of Cutter's Physiology, and Eunice Powers, a woman of the old school of culture.

After he received his education in the public schools of Warren, he entered the Agricultural College at Amherst, from which he was graduated in 1872. He spent a year in J. B. Lippincott's publishing house, then attended Dartmouth Medical School for two years, from which he went to Harvard Medical School, where he was graduated in 1877. Before he received his diploma he had gained the post of house surgeon in the City Hospital.

In 1878 he went to Japan to accept the position of professor of physiology and comparative anatomy in the College of Agriculture, Sapporo, Island of Yezo. When he arrived at Tokio he was made the consulting physician of the Imperial Colonial Department. His first contract with the government was for two years. He was liked so well, that he renewed it from time to time until he had been with the college nine years. At his mother's urgent request, he did not renew his contract in 1887, but came home through Europe. Before leaving Japan, the Emperor conferred on him the Order of the Rising Sun, Meiji, fourth class.

While in Japan, Dr. Cutter wrote several physiologies which were translated into Japanese. After his return home, he revised his father's books, which had been translated into thirteen different languages and printed in raised letters for the blind.

In 1888 he went to Berlin and Vienna to study skin diseases. In the fall of 1890 he opened an office in Worcester. Soon after coming to Worcester, while assisting another physician in performing an operation, he contracted blood poison from which he never fully recovered.

Dr. Cutter came from a long line of famous ancestors on his mother's side, born in Warren. In Colonial times, they were foremost in the life of the town; they fought in the Indian Wars, in the Revolution, in the War of 1812, and the Civil War.

Dr. Cutter "was energetic and possessed of forcible character. He had the courage of his convictions, and his fearlessness counted much