giving man dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth; but we do know that throughout historic time man has not hesitated to capture, to subjugate, and to slay, beast, and bird, and fish, for his pleasure, his sustenance, and his service. Was the lordship over the animals given to man only for the satisfying of his physical and sensuous needs? Is not the life more than food? Was it only with reference to man's bodily well-being that the question was asked: Are ye not of much more value than the birds of the heaven? Does the mind need no aliment? And is the veto to be applied only when animals are to be used for the purposes of elucidating the kindly functions of physiology, or of disclosing the baneful secrets of disease?

The vicarious suffering and sacrifice of animals for the service and the salvation of man have obtained throughout the ages, and constituted the basis of the elaborate ceremonial system of the ancient Israelites. In anticipation of the great Passover, Moses directed the Israelites each to kill a lamb according to their families, and to sprinkle its blood upon the lintel and the two side posts. "For the Lord will pass through to smite the Egyptians; and when He seeth the blood upon the lintel, and on the two side posts, the Lord will pass over the door, and will not suffer the destroyer to come into your houses to smite you." The complete purification of one leper and his reception back into society involved not only the slaughter of three lambs, but the convalescent had to appear with two living clean birds, one of which was slain, while the other, still living, was baptized in the dead bird's blood, and then allowed to fly away free. The principle of substitution was actualized in the ceremony of the scapegoat. At the annual Feast of Expiation, a young bullock, two kids, and one ram were slain; and two goats were taken upon which lots were cast, one lot for Yahweh, the other for Azazel. The goat on which the lot fell for Yahweh was sacrificed for a sin offering; but the goat upon which the lot fell for Azazel was presented alive, and when the high priest had symbolically placed upon its head the sins and transgressions of all the people, the goat was led into the desert, there to become the victim of hunger and thirst, and the prey of ravenous bird and beast.

Are these hecatombs to be regarded as of Divine origin and sanction, while the inoculation of a cat or dog, or it may be a rat, is to be denounced as a desecration and a violation of the purposes and will of God? Who will say but that in our day, as the Angel of Death passes through the land, seeing upon us the sprinkling of the immunizing blood, takes that for a token, and is not suffered to come into our houses to smite us? "Dipt in his fellow's blood the living bird went free"; and so we, dipped in blood, aye, the blood of our fellow-man, as the annals of medical martyrology bear witness, we enjoy a growing freedom from plague and pestilence and noisome disease, and in the fullness of knowledge the measure of our freedom will be full.

A Clinical Lecture

ON

VISCEROPTOSIS: ITS SYMPTOMS AND TREATMENT.

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VISCEROPTOSIS, or "dropping of the viscera," is a condition combined with chronic invalidism. The disease is often called after the organ most markedly prolapsed, for example, gastropotosis, nephropotosis, etc. Clinically, these cases usually seek relief from gastric, nervous, or uterine symptoms, and are usually dealt with by the gastrologist, neurologist, or the gynaecologist. The displacement downward of any of the viscera is without symptoms so long as the patient is in good physical condition—in other words, the disease comes to our notice in association with neurasthenia, and no mechanical replacement of the prolapsed organ or organs can cure the neurasthenia. On the contrary, a cure of the neurasthenia goes far to make a symptomatic cure of the visceroptosis. Occasionally local symptoms may arise from an organ, as Dietl's crisis or intermittent hydronephrosis in a movable or floating kidney, dilatation of the stomach secondary to prolapse, constipation

from a prolapsed colon, and local bladder, rectal or ovarian irritation from uterine prolapse. But when symptoms associate themselves with prolapsed viscera they are, in the vast majority of cases, those of neurasthenia, and are never cured by mechanical replacement of the offending organs. Such associated cases require the treatment of neurasthenia, and as far as possible it should be a full or modified Weir Mitchell treatment of rest, free feeding, massage, and training of mind and body. There are certain adjuncts or agencies that, carefully pursued, make for an anatomical replacement in addition to a symptomatic cure.

ETIOLOGY.

The frequency of these ailments is most startling. Over 90 per cent. of the cases of neurasthenia in the female are victims of visceroptosis. This disease is less prevalent in the male neurasthenics.

Clinically, the etiological factors of importance are bad standing posture, badly-fitting garments, imperfect use of the lower zone of the thorax, the absence of fat, and the want of tonicity in the abdominal musculature leading to defective intra-abdominal pressure.

Dr. John Madison Taylor of Philadelphia and Keith of England were the two first, so far as I know, to point out that the origin of this disease begins in a faulty position and use of the thorax. Indeed, it would seem as if the muscles of the spine were the prime offenders.

SYMPTOMS.

The symptoms of this disease, when well marked, are practically those of neurasthenia with or without direct local distress. Of the local symptoms, some form of gastric disturbance is usually complained of. Pain or tenderness is variable in its situation. It may be in the right renal region or over McBurney's point, simulating appendicitis, or extending down the right leg to the heel. It may be felt at a point over the eighth or ninth left costal cartilage, or in the chest, or in the median line over the left lobe of the liver, even when the upper border of the stomach lies below the navel. Occasionally the pain may be complained of at or below the navel. The situation to which pain is most frequently referred, however, is the small of the back. The crisis of movable kidney has been mistaken for appendicitis, and intermittent hydronephrosis for ovarian tumour. On account of the backache and pelvic dragging, women with general visceroptosis frequently seek relief at the hands of the gynaecologist. Gynaecologists, as a rule, are coming to realize that prolapse and displacement of the uterus is but part of the general visceroptosis, and that the whole picture has lurking behind it "the American disease"—neurasthenia.

When discussing the question of treatment, I shall point out to you that the muscular tone of the levator ani is an immense factor in bringing the pelvic viscera to their normal position, and that the tone of this muscle is largely dependent upon the tonus of the lower half of the abdominal wall. It is not infrequent to meet with patients who have had their uterus suspended for displacement and prolapse, in whom the upper border of the stomach is found but little above the navel. It is needless to say these patients obtain no results from gynaecological operations. To return to the signs and symptoms: There is usually a mild, but occasionally a severe, form of secondary anaemia associated with this disease. A condition of presenility is occasionally found, and this may be attended with early arterio-sclerosis. One of my patients, upon reaching the age of 28, had passed the climacteric.

The most constant symptom is emaciation or malnutrition, for, if these patients are fairly well nourished, they are flabby and their muscular development is defective. On stripping such a patient we notice the emaciation and atrophy of the skin. It is free from fat, and noticeably devoid of elasticity. The flushings brought out by handling would enable one to write a name easily upon the skin. This dermatography is a stigma of neurasthenia. The lower zone of the thorax in this woman has fallen in so that the right prolapsed kidney can hardly be pushed back into its natural bed without bending the ribs outward. I want to impress upon you that the shape of that thorax suggests at once the condition we have to deal with. When this patient stands up, the abdominal wall is a double plane, but its apex is well below the navel. The same condition obtains on laying the patient down. The abdominal musculature is atrophied and flaccid, and of such a quality that you can easily see that the intra-abdominal tension is greatly below what it should be in a healthy person. I am in the habit of thinking of the

abdominal cavity as a joint. Did you ever see a surgeon whose eye would not steal away from a diseased joint on an inspection of the muscles that move that joint to determine the extent of the disease in the joint? Clinically, when the joint is diseased, the muscles passing over, or moving that joint, waste, and this wasting of the muscles of the joint has been a clinical phenomenon known from the beginning of time. Now, I hold that the abdominal cavity can be considered as a joint, and the health of that cavity can be fairly well gauged by the tone of the muscular covering of that cavity. I wish to say, further, that, if the abdominal wall is strong, the muscles that oppose the walls are strong. The lower zone of the abdomen is opposed by the levator ani, and the upper zone by the diaphragm and the lower intercostal muscles. As a physical sign of this disease, I attach considerable importance to the absence of the stomach resonance in Traube's semilunar space. You will notice in this case there is flatness on percussion. I shall show you that a similar flatness is obtained in the other two patients to be examined during this clinic. I cannot say that I have had experience enough to determine how much importance should be attached to the fact that the tenth rib floats. In a considerable number, though not in all, of these cases it does. On asking this patient to take a deep breath, you can see on close inspection here two shadows apart travelling when the patient expires. These are the upper and lower borders of the prolapsed stomach, and these can be frequently seen in patients as emaciated as the one under inspection to-day. The position of the solid organs, of course, must be determined by palpation. The spleen, the liver, and the kidneys each has its special method of being palpated, and I know no higher test of a good practical diagnostician than his ability to palpate solid organs.

The inflation of the hollow viscera like the stomach and colon is necessary to complete the examination. Stomach inflation can be done with a tube or with tartaric acid and soda bicarb. solutions. In using the latter method the patient should be instructed that if he has any difficulty in getting the gas up he should pass his finger down his throat as if to provoke vomiting. This simple measure invariably brings relief.

In this third case of gastric prolapse the stomach has a vertical position, the pyloric portion descending much lower than in either of the other two. She is not anaemic like the others, and her complaint is largely limited to gastric disturbances.

TREATMENT.

Now, I wish to speak of the treatment of these cases. It would be idle to bring them before you if I could not say something in the way of cure. My friend, Dr. Meek, says this cure should begin before they are born; but, being badly born, it will be your duty to lure them out of their bad inheritance.

When you see, gentlemen, the physical deformity of this thorax, which is a type of thousands and thousands of young growing chests, you feel that you could see compulsory military service introduced into your native land without protest.

To prevent the occurrence of this condition, the early training in habits of living, the exercise of breathing, the posture of the body in standing, proper state of nutrition, regulation and wearing of garments, especially in the female, and great care after pregnancy to see that restoration of the abdominal wall to its proper place and tonus takes place, are essential. The obstetrician who does not carefully examine to see that the overstretched abdominal wall has fully recovered itself after pregnancy, has failed in one of his chief functions as obstetrician.

It is known that intercurrent conditions that confine patients for long periods in bed will cure mild cases of gastroptosis. Weir Mitchell long ago said that the most prevalent forms of gastric disturbances could be cured by his rest treatment. Certainly all cases of visceroptosis can obtain a symptomatic cure by a thorough course of Weir Mitchell treatment, in which care is taken that the abdominal wall is thoroughly built up, and the lower zone of the thorax expanded. For the relief of Dietl's crises a belt may be demanded, but I frequently say to these patients the best belt in the market is a thoroughly restored abdominal wall.

Weir Mitchell Treatment.

The Weir Mitchell treatment, when applied to visceroptosis, is curative, and if properly carried out will not only leave the patient free from complaint, but will return and

restore to a marvellous degree the prolapsed viscera. As we practise the treatment here for visceroptosis, it has the following features:

a. Recumbent postures on a bed, as far as possible without pillows, from four to eight weeks.

b. Some form of cool bath one hour before massage to get muscular relaxation.

c. General massage, with an attempt to build up the abdominal wall, at first by massage alone, later by associated exercises.

d. Raising the thorax up. Expanding the lower zone of it several inches, to enable the viscera to find room upward. Great attention should be given to the proper position of the chest and spine, and when the patients are brought to the erect posture they are to be constantly reminded to maintain it.

e. Feeding of the patient for the relief of the anaemia present, and to cushion the viscera in the abdomen with fat. This is particularly effective in the male.

f. Train the mind and body. The mind should be trained to cease complaining, to disregard objective conditions, and the body should be trained by passive movements, resistance movements, and long walks, to a thorough state of vigour. The success that will attend your efforts will depend largely upon how far you have control over the patient and the character of the nurse, her skill as a masseuse, her ability to repress grumbling and to lead the patient into a higher moral atmosphere. Solomon said: "As a man thinketh in his heart, so is he," and these patients must be brought to think themselves on the sure road to a complete restoration of former health, for no neurasthenic can ever hope to obtain perfectly his former health until one or two years have passed over his head after the beginning of treatment. The nurse must put into the patient's head sane courage. She must have experience in dealing with the variable mental phases of this ailment. Even in the manipulative part or the physical part there is a difference in masseuses. Some are mere rubbers, others have that something which enables them to build up muscles almost like magic. I might say that my experience in muscle building is in favour of massage being done without ointment, oil, powder, and always in a relaxed state. If the masseuse fails to build up the abdominal wall and expand the lower zone of the thorax, she fails to help the patient. Ten weeks is the shortest period to be given for abdominal wall building.

Feeding.

We have been careful here to make observations on the effect of feeding in a correction of the anaemia in this condition. Dr. Macgregor, the pathologist, has been kind enough to make weekly observations on the day on which the weighing of the patients took place. The erythrocytes increase more or less in proportion with the increase of body weight. The haemoglobin increases progressively with body weight, until it may reach 110 or 115 per cent. (Gowers's instrument). The leucocytes show marked increase during the first week, reaching their maximum during the second week. This varies between 9,000 and 16,000. These observations have been carried on for the last seven or eight weeks on fourteen or fifteen patients, and they show that Weir Mitchell was perfectly justified in designating his first little monograph, *Fat and Blood and how to make them*.

It may be said that fat is no good, but neurasthenia associated with the visceroptosis is practically the cause of complaint, and as such must be considered from the standpoint of treatment. The superabundance of alimentation means the superabundance of materials that build up the nervous system, and the scales from week to week give you, in a way, all the increased weight, which is an index of the degree of superalimentation.

The greatest care is to be observed in seeing that the fat goes on in a proper way. The adult male type of fat and the adult female type of fat are two different conditions. Both have departed from that of the child, who has a subcutaneous deposition of fat all over the body, the adult male carrying his fat on the shoulders, neck, and down the back and in the abdominal cavity, the adult female carrying her fat in the breast, buttocks, and thighs. Any departure from this type in the putting on of fat should at once arouse a suspicion of arterio-sclerosis. It is true that the fat is not finally warehoused where it is first deposited. The female patient, when discharged from the institution, may carry considerable fat in the abdominal cavity, which will be ultimately warehoused in its proper locality. I must not be led too far in the discussion

of fat, for I have many other things to talk to you about, and one of them is massage.

As you know, from two to three times as much lymph as blood exists in the human body. Massage promotes the stripping of the connective tissues of their lymph and the renewing of it, and thus makes the lymph (which is the sewerage and nutritive agent) pure and nutritious. By this interchange and removal of waste products from muscles, connective tissues and skin, and their daily discharge into the blood circulation, the external organs of excretion are enabled to keep the flow of lymph and blood in a higher state of purity. Massage will build muscles; and the abdominal wall, in this disease, must be built up, and, as I pointed out before, if you build up the abdominal wall the levator ani and the diaphragm will bring themselves up to a state of tone to oppose the lower and upper zone of this muscle respectively.

I believe that massage helps the patients not only to get control of the lower neurons of the body, but likewise of the upper neurons. Indeed, it would appear as if some of the higher moral faculties were improved by massage. You, gentlemen, who are fresh from the physiological class, know that the nerve muscle preparation is regarded as if the nerves and the muscles went as one, and I believe they do, and I further believe that the lymph born from muscle is pabulum, not only for the lower neuron, but for the higher one as well. It may contain an internal secretion which goes to both the brain and spinal cord.

The fact that Cohnheim has found that muscle juice combined with the pancreatic secretion is required to prevent diabetes points out that the lymph born of muscle and cast into the circulation, both in exercises and massage, contains other things than waste products.

Some of these cases of visceroptosis have albumin and casts in the urine. We have paid no attention to their presence unless the clinical history otherwise pointed to chronic Bright's disease. The clearing up of the urine and disappearance of the casts by the Weir Mitchell treatment in many of these cases show these conditions to be due to the "twisting" of the vessels of the floating kidney, and has fully justified a disregard for the albumin in the urine. I sometimes think there are many cases of Bright's disease and arterio-sclerosis which are dependent on malnutrition. The cry that we eat too much may be true from one portion of our population, but there are two other sections of mankind—one that eats just enough and one that eats too little. I am inclined to think that it is not that we eat too much as that we have too much to eat that is the matter with the over-fed element of the race. If we could live like savages—glut ourselves ten months of the year and nearly starve for the remaining two months—there would be no disease due to over-feeding.

These patients with visceral prolapses cannot be successfully fed unless in a recumbent posture. In most cases the stomach is prolapsed, with the pyloric end more or less anchored to its normal position. The result is that the stomach contents are not properly emptied into the duodenum except at night when the patient goes to bed. This causes gastric dilatation, and as a result they tell you they cannot take milk; but the difficulty at once disappears when the patients take to the recumbent posture, then they take milk as readily as any other patient. The trouble from which they suffer is that they have difficulty in getting the milk curds out of their stomach in the erect posture.

That leads me to a new phase of gastric prolapse, and it is this: that phthisis and gastric prolapse are not an infrequent combination; on the contrary, my experience leads me to believe they are combined in nearly 50 per cent. of the cases of phthisis. The patient with gastric prolapse and phthisis is handicapped in the battle for life unless the recumbent posture of the Weir Mitchell treatment is undertaken at the start out. There is much sense in the usage of the ancient Romans, who fed when reclining upon couches.

Examination of the stomach contents in cases of gastric prolapse gave very variable amounts of acidity. The one thing that seemed fairly clear was this: that HCl was very much diminished in dilatation (secondary to the prolapse), and in two such cases there was an entire absence of the mineral acid after the test breakfast. In both of these cases the degree of secondary anaemia was striking, and since one finds occasionally neurasthenia with marked secondary anaemia in which there is neither prolapse nor dilatation, giving similar results, we have looked on the test-breakfast results as constitutional rather than local.

Action of the Abdominal Wall.

In conclusion, there are a few more words to be said on abdominal wall action and building. In the normal position of the stomach one looks upon the abdominal wall contractions as having very little to do with the onward progress of the food, but when the stomach is at the navel or below, the muscular contractions of the abdominal wall are factors of the highest importance in emptying the stomach contents into the duodenum. This reason alone should lead you to maintain vigorous abdominal walls. There is no necessity for direct massage of the levator ani. All forms of intrapelvic massage are unnecessary and abominable. Those who have given a study to physical culture recognize that one cannot develop the right arm, no matter how unilateral the exercises may be, without developing the left arm simultaneously. If one develops the triceps, the biceps, which is the opposing muscle, keeps pace in the process of hypertrophy. All one needs to do to develop the power of the levator ani is to produce hypertrophy of the abdominal wall. Several patients who have complained of relaxed vaginal and anal outlets before treatment have remarked with pleasant surprise at the complete control after. Gynaecologists will tell you that lacerations of the vaginal outlet can be considerably compensated for by a vigorous levator ani. In the last five years the female pelvis has been passing over from surgery to medicine. Indeed, it is not too much to say that the vast majority of operations for displacement and prolapse are both unscientific and unnecessary. What is said of ptosis in the pelvis can be said with more emphasis of operations on movable kidneys and gastric prolapse.

My experience with automassage of the abdominal wall, as recommended by A. Abrams, is only partially satisfactory.

In conclusion, I wish to say that there is no age with visceroptosis barred from the benefits of this treatment. One patient, aged 58 years, has done as well as those under 30 years.

RECURRENT VOMITING IN CHILDREN.

BY

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This malady is also known as cyclical, fitful, or periodic vomiting. The features are so remarkable and the difficulties of diagnosis so great that this disorder deserves close consideration both by the clinician and pathologist.

Crozer Griffith¹ finds that vomiting of a recurrent type is met with in various disorders—for example, in the adult it forms a feature of the so-called "gastric crises" of tabes dorsalis. "Gastric crises"² have, however, been described independent of this disease, occurring in adults and characterized by vomiting and great abdominal pain, which may or may not persist after the act of vomiting; the attacks may occur at regular intervals, or this feature may not be present; as a rule the individual is free from fever. Boas³ has spoken of this group as examples of so-called "gastric neurosis," and subdivides them according as to whether there is a reduction or increase of hydrochloric acid in the gastric juice.

Under the name of "gastric" attacks Langford Symes⁴ describes the occurrence of constipation, vomiting, and even collapse, the vomiting often seeming to relieve the attack; these cases occur in children only, and, as a rule, there is discoverable some antecedent error in the dietary.

In 1882 Dr. Gee⁵ described 9 cases of "fitful" vomiting; in some there was considerable abdominal pain; in others none. Of recent years an effort has been made to describe as a separate group of cases occurring in children those in which the recurrent attacks of vomiting occur independently of dietetic errors, and are unaccompanied by pain, or only by so much as might be explained by the strain put upon the abdominal muscles by repeated acts of vomiting; such cases may, however, complain of slight headaches. Since this group has been differentiated in this way a number of cases have been described, more especially by American and French writers.

Briefly stated, "recurrent vomiting of children" begins generally after the first year of life, though it may occur at the second month (Rachford),⁶ and may persist to the eleventh year; in many cases the symptoms pass off altogether, or they may develop into migrainous attacks; in three cases