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Original Articles

DUTIES OF A NURSE IN ABDOMINAL SURGERY.*

(PREPARATIONS NECESSARY IN SUCH OPERATIONS.—PATIENT, ROOM,
NURSE, ETC.—AFTER-CARE OF PATIENT.)

BY HERBERT A. BRUCE, M.D., F.R.C.S. (ENG.), TORONTO.

Preparation of Room for Operation.—When possible, the nurse should go to the house of the patient the day before the operation to select a suitable room, and prepare it, getting ready towels, bed-linen, water, and vessels. A room on the second floor, with good light and ventilation, is to be preferred. Remove carpets, curtains, upholstery, and all unnecessary articles of furniture, such as sofas, rocking-chairs, fancy tables, brackets, pictures, etc. Have the mattress thoroughly aired, and the bed cleaned and made up with a fresh draw sheet, having a rubber sheet underneath. A single bed should be used if it can be had.

Have the floor scrubbed thoroughly, wipe off the walls, and particularly tops of doors and windows, removing every particle of dust, and on the morning of the operation go over all again with a wet cloth. Do not use a dry duster in the room.

Provide the following articles: Four chairs, with wood or cane seats, a table four feet long, two feet wide, and thirty inches high (these are the dimensions of a common kitchen table), and put a small table to the end of this; three small square tables (a bureau or marble-topped washstand will do), two clean buckets,

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a foot-bath tub, five or more china pitchers, and six basins, a dozen clean towels (not new), four sheets, two blankets, a new wash-boiler, eight bottles with corks or gem jars for hot water, two pounds of absorbent cotton, a rubber sheet, a bed pan, and a potato steamer.

The wash boiler must be thoroughly scrubbed and rinsed with boiling water on the morning of operation, filled with water, distilled if obtainable, put on to boil for an hour, and set aside on the stove, well covered, keeping it at about 120 degrees F. until desired for use. Four china pitchers must be scrubbed and scalded out, filled with boiled water, and left over night to get cold. A solution of carbolic acid (1-20) is made up and put in one of the pitchers. The wash basins must be scrubbed with soap and water, scalded, and turned upside down on clean towels so as not to catch the dust of the room. If the room cannot be prepared before the day of operation, it is better not to take up the carpets on the morning of operation, but unnecessary furniture may be removed, and a dampened sheet spread over the floor. A chair is placed at the end of the table, covered with a blanket and a sheet to serve as a rest for the patient's feet during the operation. The table is covered with a blanket, and over this a waterproof sheet, covering over all a sterilized sheet. Three smaller tables are covered with sterilized towels, one for the dressings, one for the basins to keep sponges in, and one for the instruments. A basin filled with carbolic solution (1-40) is placed on a chair for the surgeon and his assistant's hands, another basin with a similar solution for the nurse's hands. A basin filled with plain boiled water, *i.e.*, sterilized water, is placed close to the surgeon, to be used during the operation, to free his hands from blood. Two basins are filled with sterilized water, hot, to be used for the sponges, one to keep them in, and the other for rinsing them free of blood after use. Two basins will be needed for washing, one for the surgeon and the other for the assistant. Two nail brushes should be placed in the soap-dishes.

Instruments.—The surgeon generally brings trays for his instruments. These must be scalded out before use. If he does not bring trays, basins, or better still, china platters, may be used, and the instruments are placed in these and covered with carbolic acid solution (1-20). Just before the operation begins, this solution may be diluted to 1-60 with boiling water. Many surgeons prefer having their instruments covered with plain sterilized hot water. If they have been boiled immediately before use, this will be quite sufficient; otherwise they should be placed in 1-20 carbolic acid solution for fifteen minutes, then before using, dilute this to 1-60 or to 1-100. If the surgeon wants them boiled at the house before-

using, and this is the best method of sterilization, they should be wrapped in a sterilized towel, and placed in a potato steamer or any clean vessel, and boiled for twenty minutes. Knives, scissors and needles should be sterilized by placing in carbolic acid solution (1-20) for fifteen minutes. Boiling takes the edge off. Some use alcohol, but it is not a good antiseptic, unless it is absolute, and then it is not as good as carbolic acid. After sterilization in this solution for fifteen minutes, the solution should be poured off, and sterilized water put over them. The sponges should be counted, and a note made on paper of the number in use. Small pads of sterilized gauze must always be used to protect the hands in taking hold of anything not sterilized, such as basins, pitchers, etc. A good substitute for reef sponges is gauze sponges, made by covering absorbent cotton of the size required with gauze, and stitching the gauze. Eight small ones, and four large ones for the interior of the abdomen, will be sufficient. In fact, owing to the difficulty of sterilizing reef sponges, gauze sponges should always be used. We use boiling water for the sterilization of instruments, silk, drainage-tubes, towels, and utensils. An expensive apparatus is unnecessary. A large stewing-pan, enamelled, or a fish-kettle, will do just as well. Steam and boiling water are very efficient disinfectants. Most pathogenic germs perish after ten minutes' exposure to 64 degrees C. of moist heat. Therefore five minutes in boiling water should kill them. Fifteen minutes in boiling water is enough to kill such organisms as are likely to be met with. It is advantageous to add a teaspoonful of washing soda to each pint of water used for the disinfecting of the instruments. The soda helps the removal of the grease and fat, and prevents the instruments from rusting. Moreover, the addition of the soda renders the boiling point of the water a little higher, so that disinfection is more certain and rapid.

Disinfection of Hands.—Remove all rings. The finger nails should be trimmed as short as possible, with a knife or scissors. Afterwards the hands and forearms should be scrubbed with soap and water (temp. 105 degrees F.) for five minutes, having the water changed at least three times. The object of this soaping and scrubbing is not only to remove all visible dirt, but also to extract as much as possible of the grease from the skin, so that the disinfectants can penetrate. Ordinary soap will do, green soap is better, and probably the best soap is green soap dissolved in ether and alcohol. The next step is to disinfect the prepared hands. They should be soaked for between five and ten minutes in carbolic acid solution (1-40).

Preparation of Patient.—The day before operation the patient is given a purge, so that he will not be disturbed for a few days

after operation. The usual prescription is 3 grs. of calomel, giving half a grain every half hour until all are taken, and two hours after the last dose half an ounce of mag. sulph., and an enema the morning of operation. He is also given a hot bath, with soaping and scrubbing. This does not necessarily mean that he is put into a bath-tub, for he might be too ill for this, but he can be thoroughly bathed in bed. Then the skin of the area to be operated upon is prepared. In most cases the first step is to thoroughly shave the skin. The whole area involved in the operation ought to be shaved. After the skin has been shaved, it should be cleansed of dirt and surface epithelium by energetic scrubbing and soaping, with green soap. Then the fat and sebaceous matter must be removed. This is done by rubbing the skin with ether or spirits of turpentine, or gasolene. Ether and gasolene are clean, and leave a surface into which the disinfectant penetrates. Then a green soap poultice is applied for two hours, and the above process repeated. Then a large piece of gauze, saturated with 1-40 carbolic acid solution, is placed over the skin. This should be changed two or three times during the twelve or fourteen hours preceding the operation, and two hours prior to the operation the part should be gone over with ether or gasolene, and soap, and fresh carbolic (1-40) applied.

The Field of Operation.—Take away blankets, but avoid unnecessary exposure. The loss of heat is very great when a large area of skin is exposed to the air and wetted with lotions. The patient's body should be clothed in warm flannel garments, and the feet in stockings. If the patient be old or debilitated, wrap up as much as possible of the trunk and limbs in layers of cotton wool, held in place with a bandage. Only the area of operation should be laid bare, disinfected and surrounded by aseptic towels. A thin mackintosh may be placed beneath the towels to keep the patient's clothing and blankets dry.

Operations on Female Generative Organs.—If the operation be upon the female generative organs, or any condition in the pelvis, the vagina must be cleansed by douches of carbolic acid solution (1-40), or hyd. bich. (1-4000). Two douches should be given the day before operation, and one the morning of operation. If the operation be upon the vagina or cervix, the pubic hair must be shaved. The chest should be covered with a blanket, with a rubber sheet over it, and the legs wrapped in a similar way, or with absorbent cotton, and bandaged, if the patient be old or debilitated. If the operation is to be long, the feet should rest upon a hot water bag, another should be placed under the knees, and still others about the chest. The surgeon or nurse may go over the abdomen again with green soap and a nail brush, fol-

lowed by 1 in 20 carbolic acid solution, after the patient is anesthetized. Especial care should be taken in cleansing the folds of the umbilicus.

The after treatment of most cases of abdominal operations is of a definitely routine character. Abdominal operations are always attended by more or less depression, varying in intensity according to the vitality of the patient, the loss of blood, and the length of the operation.

Preparation of Bed.—While the patient is still in the operating room, the bed has been prepared for her by placing a broad rubber sheet under the linen draw-sheet on which she lies, and a single blanket between the patient and the upper sheet, to be removed after the patient has reacted. The pillow is removed, and several hot water cans and bottles are laid down the middle. Instead of tucking the bed-coverings in all around, they should be folded back to the edge of the mattress on one side, in order to put the patient to bed with the least possible loss of heat and disturbance of covers.

Care in Use of Hot Water Bottles.—When put to bed, hot water bottles or cans are placed down the sides, at the feet, and under the arms, with a single blanket between them and the patient, where they remain until reaction sets in. They must be watched with extreme care on account of the danger of producing a serious burn, while the patient is unconscious. I regret to say that I have had personal experience of severe and painful burns, taking months to heal, and causing a great deal of suffering, due to a nurse's carelessness in putting hot water bottles close to an unconscious patient, with insufficient protection between them and the patient's skin. The room should be darkened, and the nurse should remain in charge, not leaving the patient alone for a minute, until the effect of the anesthetic has passed off.

Even after the effect of the anesthetic has passed off, the patient should be closely watched, because women have often been known to get out of bed, while only semi-conscious, either in eager desire to allay their thirst, or to find some morphine to relieve their pain. Dr. Kelly reports the case of an old Irish woman, upon whom he had performed an abdominal hysterectomy, getting out of bed immediately after, and walking through two rooms and over a brick pavement, into the yard. Another patient of his, a mulatto girl, who had an extensive suppurative peritonitis, persisted in getting out of bed and lying on the floor, never having slept in a bed in her life before. Both of these cases recovered, but they ran a very serious risk of losing their lives. Perfect quiet must be the rule throughout. Restraint must be exercised while the effect of the anesthetic is passing off, only to the extent

of preventing the patient from falling out of bed, or tossing continually to and fro.

Position in Bed.—It is not necessary, however, for her to remain persistently on her back for a week. On the contrary, she may be carefully turned from one side to the other after the effect of the anesthetic has passed off, in most cases, if the change makes her more comfortable. It is best to avoid frequent turning, especially of nervous patients, who will not be comfortable long in any one position. If the patient becomes very weary after four or five days, she may even be picked up by four assistants catching the corners of the sheet and lifted on to a cot, while her own bed is aired, changed and shaken up.

Bandage.—After the first dressings are removed, a small piece of gauze must be strapped over the incision, and renewed daily for a few weeks. The value of abdominal bandages to prevent hernia has been greatly overestimated. They may be useful in fat women, or where the abdominal wall is exceedingly lax, and the muscles atrophic. In all cases they can be dispensed with, unless the patient feels more comfortable with one on. Where they are necessary, they should be worn from six months to a year.

Toilet.—As soon as consciousness returns, the hands and face are bathed in cool water, and the mouth cleansed with a gauze sponge dipped in ice-water. If there is a tendency to choke with mucus, the fauces must be wiped out with a clean napkin away back in the throat. After the patient is able, a gargle of hot water relieves the thirst, and the unpleasant taste of ether in the mouth. The head must be kept low, without a pillow at first, to assist breathing and to lessen the nausea. A hair pillow under the flexed knees gives a more comfortable position.

Bathing.—The morning after the operation the patient may be given an alcohol bath, one part alcohol and three parts water, at a temperature of 120 degrees F. Beginning at the face and arms, carefully placing towels under the parts, so as not to wet the bed, and exposing small portions at a time, the whole body may be washed with a soft gauze cloth.

The alcohol bath should be given during the first forty-eight hours, after which the regular daily bath of warm water and soap may be resumed. The back should be rubbed with alcohol night and morning to prevent bedsores over bony prominences. The abdominal bandage must not be removed until the surgeon orders it done, after which a fresh bandage should be put on every day, or, better still, night and morning. The night-dresses should be made to open in the back, to be worn like a pinafore, and a clean one, morning and evening, adds greatly to the patient's comfort. The hair should be kept neatly braided in two braids, and the

mouth cleansed several times a day. The bed should be changed every morning, except the bottom sheet, which may remain on for four days. The draw-sheet should be changed every night and morning, with the patient's undershirt. The room should always be neat and tidy; everything should have a place, and be kept in it. The room must be dusted with a damp cloth every morning. If the patient is tired and restless, a tepid sponge bath, followed by gentle rubbing and a cup of hot cocoa, not too strong, will often take the place of a narcotic. The medical profession is somewhat divided on the question of using morphine after abdominal operations, most surgeons objecting to its use except in cases of severe suffering, while others venture to assert its necessity. The nurse should not give morphia unless ordered to do so by the surgeon. Morphia must be used with great caution when the woman is hysterical; indeed, it is often better to allow a hysterical woman to suffer than to use it at all.

A single hypodermic of a 1-4th gr. morphia the first night after operation should not be injurious in most cases. Violent movements should be controlled as far as possible by moral suasion, with efforts at gentle restraint. Under no circumstances should a woman, semi-conscious and writhing in pain, be pinned down to the bed by force. She is far more liable to do herself more injury in this way than if left uncontrolled.

Nausea.—The nausea from the anæsthetic is variable, being most pronounced after long operations. It usually ceases in from 24 to 48 hours, although it may last three or four days, or even a week. Little or no nourishment should be given at first, while the vomiting is active. If the patient is weak and the nausea persists, nutrient rectal enemata of four ounces of peptonized milk, and the yolks of two eggs with salt, may be given every six or eight hours. Nausea will often be relieved by teaspoonfuls of hot water. A mustard plaster over the pit of the stomach also helps. However, nothing of this kind should be used without the doctor's orders.

Food.—The first food given should be a teaspoonful of milk, or hot weak tea, at half-hour intervals, increasing the quantity as the stomach becomes tolerant. Lime-water may be added to the milk. Strong coffee is also valuable occasionally as a stimulant. Egg albumen is a tasteless and most nutritious drink. It is made by beating up the whites of four eggs into a liquid froth, and allowing it to stand in a cool place for an hour or more, when about two ounces of liquid albumen may be drained off, leaving the frothy part behind.

Egg albumen should be made fresh every eight to twelve hours, according to the time of year. It is best given a teaspoonful

or two at a time, mixed in two or three teaspoonfuls of water, with a little sugar, and with five or ten drops of lemon-juice; if preferred, a teaspoonful of sherry wine may be added. Additional articles of liquid diet are chicken broth, beef tea, and the various gruels. Hot oyster soup, with the oysters taken out, is a valuable and appetizing addition to the diet list when other liquids have become tiresome. Wine-whey and clam-juice are occasionally useful. From four to eight ounces of nourishment will be taken in this way, during the second twenty-four hours, and increased to ten and thirteen during the third. From the third to the seventh day, if all is going well, soft diet may be given, which consists of soft boiled eggs, milk toast, bread, soups, custards, jellies, with milk punch or egg nog. After the first week, stronger diet may be gradually resumed.

Thirst.—The thirst for the first twelve hours after abdominal section is sometimes overpowering, and the patient, in her desire to allay it, scarcely knows what she is doing. Dr. Kelly says that one of his patients, a desperate ovariectomy case, reached down to her feet, and pulled up the warm water bag, from which she drank at least a quart of warm water. Another, a colored girl with general suppurative peritonitis, and with a drainage tube in the abdomen, got out of bed, walked into the hall, and drank a large quantity of water from the spigot of the water-cooler. Fortunately neither of them were apparently hurt by their experiences. The best way to treat thirst in all cases is to meet it as far as possible preventively, by giving the patient a rectal enema of one quart of normal saline solution while she is still on the operating table, at the conclusion of the operation. This is done with the table elevated from six to eight inches. In order that the patient may retain the enema, she must be under the anæsthetic when it is given, otherwise the bowel will not tolerate such a large quantity of liquid. For this reason it is impossible to give liquids in sufficient quantities to the conscious subject to be of any great service in assuaging the thirst. However, I have found injections of a small quantity of hot salt solution, say from six to eight ounces, retained, and if repeated every two hours during the first twenty-four hours, it serves in a great measure to relieve the thirst.

Catheter.—The catheter should only be used to draw the urine if the patient is unable to pass it naturally after six or eight hours, and then the utmost care must be taken to pass a clean catheter through a clean urethral orifice, under inspection. If the catheter has to be used at all, its use must be discontinued as soon as possible. If vesical irritability is persistent, the surgeon will give something to relieve it.

Bowels.—Too much anxiety should not be felt about the

bowels not moving, if the patient is doing well in other ways, for as late as three or four days. As a rule the surgeon will order something which will move the bowels on the evening of the second or third day. Calomel will usually be the drug selected, followed by mag. sulph. and an enema. Tympanites, which often occasions much distress, is usually relieved by the free evacuation of the bowels.

Temperature.—The temperature should be taken every four hours at first. On the evening of the second day it is usually elevated to 100 degrees F., or even to 101, but it usually drops with the first free movement of the bowels. This slight rise in temperature appears to be due to the absorption of a fibrin ferment. A persistent temperature, however, is in most cases due to infection, either of the wound, or of the peritoneum. Should a chill occur, the temperature should be taken an hour after.

Facial Expression.—This is a sign scarcely less significant than the temperature and pulse. A bright, natural expression should be looked for during the normal convalescence; a flushed dusky, anxious, haggard expression will, as a rule, indicate some complication.

Convalescence.—In ten or twelve days, usually, the patient may be propped up with pillows, or on the bed rest, and in from seventeen to twenty-one days, according to the rapidity with which strength is regained, she may spend part of the time in a reclining chair or on a sofa. Throughout the convalescence, she must avoid straining the abdominal muscles. While still abed, she must not raise herself to a sitting posture, or change her position without aid. Later, she must not stoop, or lift heavy weights.

During active vomiting, the least strained position is lying on the side with the body slightly flexed, or on the back, with the knees drawn up, resting on the pillow. At the end of the fourth or fifth week, she should be able to walk around, or perhaps go downstairs. All bodily movements should be gentle at first. The patient must not sit up long enough at first to grow tired of the newness of it, and later on she should avoid tiring herself on her feet. It is best not to hasten in getting out of bed, as a prolonged absolute rest is an important element in securing complete restoration to health. Heavy work and exhaustive exercises of all kinds must be avoided. The convalescence is by no means at an end when the patient is able to return to her home. Disappointment will frequently be avoided if she is warned of this beforehand, and kept under observation for a year or more while she is regaining her physical and nervous balance, and passing the period of any unpleasant sequelæ, such as flushes, sweating, giddiness, and various other nervous manifestations. Sometimes some of the

original discomforts persist for some months, only disappearing gradually, so that complete recovery to health does not take place till after a year, or a year and a half. Fresh air, rest, diet, and tonic treatment, with encouragement, are the most important aids in convalescence. Change of air and scene are of the greatest value in bringing about complete restoration to health.

VOMITING IN INFANCY AND CHILDHOOD.

BY B. E. HAWKE, M.D., TORONTO.

A great many of the complaints and diseases of infancy and childhood are ushered in by a "spell" of vomiting, and a short differential inquiry as to the various causes and treatment is what is aimed at in this article.

Vomiting occurs frequently in infancy, and from very slight causes, owing largely to the shape and position of the stomach, one of the most frequent causes being overloading of the stomach the result being an overflow and the attempt on the part of nature to adjust matters, and then the undue handling of the baby shortly after feeding, especially where there is pressure on the stomach, is frequently the source of the trouble. No special treatment is necessary except to regulate the amount of food, see that it is given at proper intervals, and keep your patient perfectly quiet.

Then you may have vomiting come on some time after feeding, may be accompanied with some fever, and a good deal of prostration. After the food has been evacuated, there may be mucus or even bile, and the child presents a pale, depressed, "played-out" appearance. These cases are generally known as acute indigestion, due to irritation of undigested food, and if not properly treated the mucous membrane becomes congested, and the case goes on to one of inflammation. In looking for a cause in these cases, look first to the food supply. If in a nursing child, inquire as to the health, habits, and diet of the mother, and if possible rectify any error. You will frequently find that the mother is very fond of not only one, but several cups of strong tea, and that the teapot is usually on the stove, ready to supply the necessary. If the patient is artificially fed, see that its food is the proper kind, and clean, that the bottles and nipples are sterile, and that strict regularity at proper intervals is observed. You will frequently find in these cases that the child is fed when it cries, sometimes every hour or oftener, so that the stomach is filled up before the last feeding is digested, and the result an accumulation of undigested

particles of food. Here is a case for stomach washing, repeated twice a day, if necessary, for a week or more, together with removing the cause.

In cases of acute indigestion, where the child has not received proper attention, the case goes on to one of inflammation, usually gastro-enteritis. Then, along with the vomiting, there is fever, thirst, tenderness, coated tongue and great depression, usually accompanied with an attack of diarrhea. Then, if there is mismanagement, one attack may follow another until you find yourself face to face with a chronic condition. The treatment is careful feeding and stomach-washing. Then, again, vomiting occurs from intussusception and intestinal obstruction, whether from a malformation or otherwise, and in any case it is a good rule to remove all clothing and thoroughly examine the abdomen and rectum; exclude peritonitis by the absence of tenderness, distention and fever. A tumor in the right abdomen would suggest an appendicitis; in the left look for further evidences of an intussusception, and do not conclude your examination without looking for a hernia. In the newly born, persistent vomiting is usually associated with congenital obstruction, in which case there is obstipation.

Vomiting occurs at the onset of the acute infectious fevers, but is of no special diagnostic value; it may be due to reflex irritation, from teething, irritation of the pharynx, or even worms, and is one of the first signs of brain irritation, whether from a tumor or simple or tubercular meningitis, when it assumes a sort of projectile form, and in a short time the making of your diagnosis is assisted by recklessness, oscillating eyeballs, muscular rigidity, irregular pulse, and slow, irregular respiration.

If you have a case of chronic vomiting, and have failed to find a cause, and at the same time failed in your treatment, you have in all probability one of "habit vomiting." Try gavage, and you will usually help both yourself and your patient out of the difficulty.

Toxic materials in the blood very frequently excite vomiting—ptomaines and other poisons taken with the food, and uremia. The latter being recognized by repeated urinary analysis. It is often difficult to make a diagnosis in these cases, and you have to arrive at a conclusion by exclusion. In this connection, I think I can safely include a form of vomiting known as cyclic vomiting, not often seen in infants, but frequently in older children.

Authorities have not, as yet, satisfied themselves as to the exact cause, or whether these cases have the same origin. But Holt says it seems to be associated with a general derangement of nutrition which is in some way connected with formation and excretion of uric acid; at any rate, it looks to one like the gradual

accumulation of some toxin until there is an explosion in the form of a violent and persistent attack of vomiting.

There does not appear to be any premonitory symptoms, unless in a few cases a feeling of lassitude and a somewhat tired, careworn expression. The attack then comes on suddenly with severe and uncontrollable vomiting, repeated every fifteen or twenty minutes, and usually lasts from fifteen to sixty hours, and is accompanied with intense thirst, the child asking continually for water and immediately vomiting it.

The temperature is usually about normal. After the first twenty-four hours the child loses flesh rapidly, and looks very ill, but when the vomiting ceases, picks up very quickly. The diagnosis, especially the first attack, is often very difficult, but when you have the history of repeated attacks you cannot very well make a mistake. The disease with which it is mostly confounded is tubercular meningitis. The intense vomiting coming on suddenly in a previously healthy child, the temperature usually normal, the mind clear, the face and expression indicating nausea, and in a few days the absence of diagnostic signs of meningitis, serve to make the distinction. In acute indigestion the vomiting usually ceases when the stomach is relieved, and does not recur, and in acute gastric catarrh there is elevation of temperature, coated tongue, pain, and tenderness in the epigastrium.

Cyclic vomiting is essentially a self-limited disease, and the attack does not appear to be relieved by any immediate medication. The treatment is complete rest, no food or drugs given by the mouth. If the patient is restless and cannot sleep, pot. brom. or chloral hydrate may be given per rectum, and likewise brandy in water may be given if the indications are such as to call for stimulation. Peptonized milk should be given per rectum, and do not be in too big a hurry to feed by the mouth; and then whey, or equal quantities of iced milk and limewater may preferably be given in small quantities. Between the attacks, the treatment is principally dietetic; meat, milk, and stale bread may be given, and withhold as much as possible all starchy food and sugars. An occasional calomel purgation between the attacks is beneficial.

Holt says the diagnosis of a case in which vomiting is the chief symptom may be difficult. The first important distinction to be made is between cases in which the vomiting is of gastric origin and those in which it depends upon other conditions, such as intestinal obstruction, cerebral disease, toxic conditions, etc. It is only by a careful consideration of the other symptoms associated that an accurate diagnosis can be reached. The treatment of vomiting is the treatment of the cause upon which it depends.

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THE ANATOMICAL FACTOR IN THE PRODUCTION OF BALDNESS.

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Cunningham, in opening his chapter on the Dissection of the Scalp, says: "Strictly speaking, the term 'scalp' should be restricted to the soft parts which cover the vault of the cranium above the level of the temporal ridges and the superior curved line of the occipital bone;" while Treves states it is convenient to consider the term "scalp" as limited to the structure formed by the union of the first three layers, viz., the skin, the subcutaneous fatty tissue, or superficial fascia, and the occipito-frontalis muscle and its epicranial aponeurosis.

How strikingly does the scalp area of Cunningham correspond with the area of baldness as seen in most individuals, the subjects of this condition! But still more precisely and accurately does the area of baldness correspond to the area of the epicranial aponeurosis, a structure in which there are no muscular fibres, nor yet any underlying muscular fibres between it and the bone. That the production of baldness has an anatomical factor, I propose now to discuss more in detail.

The skin of the scalp is intimately connected with the underlying epicranial aponeurosis by the superficial fascia. In fact, these two structures are so firmly attached by dense fibrous bands, that it is a difficult undertaking for a dissector to essay their separation. Amongst these meshes lie the fatty tissue, the nerves and the vascular structures before they break up to supply the skin. Similar superficial fascia is found in the palms of the hands and the soles of the feet; and it may be significant to note that of the three regions of the body supplied with this dense superficial fascia, the overlying skin in the two latter is altogether destitute of hairs, whilst the third, the scalp area, very often becomes similarly destitute in later life.

Any one who takes the trouble to examine and observe closely must be struck by the fact that baldness occurs on the top of the head, and rarely if ever extends below the temporal ridges laterally, or even down to the superior curved lines of the occipital bone, posteriorly. It will be noticed also that baldness extends lower in the middle line behind than it does an inch or so on either side of the middle line, posteriorly. This, of course, corresponds to the fact that there are no muscular fibres in the middle of the

occipito-frontalis muscle at its attachment to the external occipital protuberance, and the adjacent parts of the superior curved lines.

The skin of the scalp, therefore, overlying the epicranial aponeurosis, has no underlying muscles to exercise it, and has only to depend upon the action of the occipito-frontalis muscle, to which it is closely adherent, and only moves when that muscle is put into action. And how often that muscle is moved in twenty-four hours I leave any one to conjecture. In no other region of the body is there such an extensive area of skin which does not receive adequate exercise either through underlying or adjacent muscles.

The skin of the area of baldness is abundantly supplied with blood; the scalp is very vascular. There is nothing anatomical or mechanical to interfere with or retard the arterial supply, unless it be the proverbial construction of the hat assumed by the male portion of the population. As far as this acts upon the arterial trunks, it is infinitesimal, but upon the return flow in the lymphatics and veins, the hat has its influence.

The lymphatics and veins drain the area of baldness in five different directions. On either side of the middle line, anteriorly, there is a lymphatic stream down the forehead past the nose and over the face to the submaxillary glands. Latterly these vessels lead to the lymphatic parotid glands; posteriorly, into the post-auricular and sub-occipital glands. The fifth is along the path of the emissary veins, through the parietal foramina when present in the parietal bones, into the superior longitudinal sinus. I have recently taken the trouble to examine a number of parietal bones. In a great many of these the parietal foramen, which when present is generally situated about an inch or so anterior to the posterior superior angle on either side of the sagittal suture, was absent altogether; and it was in the smaller and thinner bones that it was present. It would be, perhaps, an interesting point to know whether this parietal foramen with its emissary vein, were more constant in women than in men, as its presence must add materially to the draining facilities of this region.

Whilst the skin of this area of baldness, and consequently the hair follicles, may have a good nourishing supply directed towards them, the functions of the hair papillæ may be stunted by the slow return flow through the veins and lymphatics. What is there to accelerate that flow? Nothing but the inactivity of the epicranial aponeurosis, and, perhaps to a slight extent, gravity. There is no active muscular exercise in the part whatever, to hurry along the waste products and the deoxygenized blood in the vessels. These structures being superficial, and easily compressible, their compression by the rim of the hat will further retard their

flow. In their passage outwards from the centre of the dome, the rate of flow is dependent entirely on the gradual fall, that is, to gravity. When they approach the borders of the dome, however, the fall is precipitate. Here, also, the influence of underlying muscular structures comes into play. One can easily demonstrate this by placing the hand on the back of the head and noting the extent of skin exercised in the nodding and turning movements of the neck. So on the sides. The temporal regions have their skin abundantly exercised through the action of the temporal muscles. Very often a tuft of hair remains for a long time over the forehead, when the falling-out process is advanced to a great degree behind it. That may be due to the part being well drained on the border of the dome, which is also to some extent exercised by the anterior muscular fibres of the occipito-frontalis muscles, which fibres extend well up to the hair line in front.

Baldness does not prevail in the female sex to anything like the extent it does in the male. Very few women become bald, even in far-advanced life. This is generally put down to the fact that they give more attention to their hair, dressing and combing it night and morning—and their light headgear. The scalp in them is well exercised by the combing, plaiting, and throwing from side to side, movements which impart a good deal of exercise to the scalp. Women suffer from dandruff equally with men. If dandruff be the prime cause of baldness in men, why are its destructive effects not equally seen in women? Men comb and brush their hair in a minute, probably once or twice or thrice daily. There is no exercise to the scalp in these manoeuvres of a minute's duration. During the hours of sleep, the dorsal or either lateral decubitus is assumed. This may have a slight effect in hastening onward the return flow from the roots of the hairs in the bald area. In the expressions of surprise, etc., when the anterior fibres of the occipito-frontalis produces wrinkling of the skin on the forehead, the exercise to the skin is beneficial to the hair over the forehead: But how often are these expressions depicted upon the human countenance?—especially as age advances, and more control is exercised over the muscles of expression. If there be no anatomical factor in the production of baldness, how is it that dermatologists order massage in the treatment of calvities and in the falling-out process? How is it when the scalp has become bound down and absorption of the fat in the superficial fatty layer has taken place, that no measure of relief can avail? Simply because the hide-bound skin cannot be exercised. In scleroderma, even, the hair frequently falls out in the part affected. Massage is the substitution for exercise, and its object is to get rid of the choking and damming back in the veins and lymphatics.

The foregoing being correct, the way to treatment is pointed out. Prevention through massage-exercise is nine points in the law of treatment. This should be begun in early life, at the time when the youth is gradually developing into the more sober man, when his occipito-frontalis muscle has become more and more subordinated to his will. Massage should be performed the same way as in other regions, first freeing the vessels farthest from the seat of trouble, and gradually approaching the centre. It should be done at night as well as in the morning, particularly at night, as gravity has little, or comparatively little, chance through the day. If the scalps of men received as much exercise as the scalps of women, there should be on the vaults of their craniums a luxuriant tonsure.

"The American Indian is said by Holder never to grow bald." The reason lies in their comparatively long hair. The close-cropped Indian of the reserve is not wholly exempt.

129 John Street.

DECORTICATION OF THE LUNG: PNEUMECTOMY.

Picone (*Rif. Med.*, December 24th, 1901) reports the case of a woman, aged 35, admitted into the hospital, January, 1901, with a left thoracic fistula of two years' duration secondary to empyema after pneumonia. The patient was in a very bad condition, with all the symptoms of acute septicemia. No tubercle bacilli could be found in the pus. On resecting the second to the eighth rib the lung was seen to be closely applied to the spinal column and almost completely atelectatic; the parietal pleura was enormously thickened. The visceral pleura, which was thickened to about a fingerbreadth, was incised and detached from the lung, but owing to severe hemorrhage and threatened asphyxia the completion of the operation had to be postponed. At the next operation some of the intercostal muscles were removed and more pleura, but again hemorrhage supervened. However, the decortication was completed in successive operations without anesthesia, and in addition small cavities found in the lung containing caseous detritus were scraped out, and in some cases bits of the lung excised. The patient was very much improved so that she was able to get up, and declared herself cured of all her symptoms. A final operation of a plastic nature was performed, so as to cover the large thoracic breach. Unfortunately, soon after this uncontrollable diarrhea set in, which assumed a distinctly tuberculous character, to which the patient succumbed.—*British Medical Journal*.

Reports of Societies

TORONTO CLINICAL SOCIETY.

Stated Meeting, February 5th, 1902.

Dr. Edmund E. King, the vice-president, in the chair.

Fellows present: King, Aikins, Primrose, Peters, Hamilton, Orr, Trow, W. P. Caven, Pepler, Anderson, Stark, Small, McIlwraith, Boyd, Oldright, Ryerson, Fenton, Silverthorn, Thistle, Bingham, Garrett, Dwyer, Cameron, Parsons and Elliott.

Visitors: Drs. A. J. McKenzie, Goldie, Lowrie, Chisholm and Rutherford.

APPOINTMENTS ON THE SANITARY COMMITTEE OF THE INDUSTRIAL EXHIBITION.

Dr. Orr moved, seconded by Dr. Trow, that the same two Fellows be appointed by this Society as were appointed last year viz., Drs. W. H. B. Aikins and H. J. Hamilton.—*Carried.*

Election of Fellows: Dr. C. J. O. Hastings was elected a Fellow of the Society.

PRESENTATION OF CASES.

FRACTURE OF SPINE—TWO CASES.

Dr. E. E. King presented these two patients and recorded the histories of each. The first occurred eight years ago. Patient was a blacksmith. While working under a wagon wrenching off a nut, the wagon fell on him and crushed him beneath it. Fracture of the spine resulted at the eighth and ninth dorsal vertebræ, and also dislocation of the clavicle at the sternum. He was paralyzed below the point of fracture, and remained so for four months. Recovery was gradual, and he resumed work within two years from the time of the injury. The patients were here presented. In the blacksmith, kyphosis is exceedingly well marked. He has comparatively natural use of all parts of his body. Sensations are now nearly normal. With reference to the second case: This was an elevator accident. The force was great, and it bent him laterally as well as forward, throwing him on the floor. Dr. King saw him six and a half hours after the accident, and found him paralyzed in both limbs, and total absence of sensation. During the day sensation returned to the man entirely again. The right leg recovered first, and then the left

gradually. At the present time, which is now eight months after the accident, the reflexes are exceedingly exaggerated in both legs. In this case there was a considerable amount of bladder trouble. The muscular system is now gradually recovering, but he has not been able to resume his work yet.

Dr. Peters discussed the cases. He said there was dislocation as well as fracture in the blacksmith. The eleventh vertebra and parts below are carried forward. Most of these cases result in complete laceration of the cord, and if that occurs there is absolutely no hope for them.

Dr. Pepler was permitted to show a case, a lad of seventeen years of age, who had come to him only a few days ago. About six years ago he had had an attack of localized convulsions, beginning in the left hand, clonic, ending in tonic convulsions. This affected gradually the whole of one side, beginning in the left hand. Now, there is a good deal of atrophy with spastic gait. The attacks end in loss of consciousness. There is no history of hemiplegia in this case. The patient was presented to the Fellows. The reflexes are exaggerated on that side, but the sensations are apparently normal.

Dr. Anderson thought that the case showed the characteristics of cerebral palsy, but the cause of it is not very apparent from the history. Dr. Pepler states that there is no cardiac lesion. Evidently some irritation in the cortical region is producing the convulsions.

Dr. Boyd—The boy says he had some sort of stroke, probably a sunstroke. A fall might have had something to do with it.

Dr. Pepler stated there was no history of either shock or injury of any kind.

PIECE OF STEEL REMOVED FROM EYE.

Card specimen presented by Dr. Trow. Especially presented to show how well the X-rays help in locating a small foreign object in the eye. Occurred in a healthy young man, a mechanic, who got hit by a piece of steel. Seen by Dr. Trow some days after the accident, and a wound was found in the cornea. The iris was torn, also the lens. Could not see the vitreous on account of blood and opacity of the lens. Introduced the point of magnet into the wound, but it was possibly not strong enough to attract it. Also employed forceps, but could not find the foreign body. Then the X-ray was used, and could at once make out clearly that the steel was in the eye. Could tell the distance back, and also the size. It was a half-inch back on a line with the lower lid. With a magnet then the foreign body was brought to the edge of the wound through which it finally came, without causing any tear-

ing, bleeding, or any injury whatever. Drs. Ryerson and King discussed this case.

CAPSULAR NEPHROTOMY.

By Drs. W. P. Caven and George A. Peters.—The notes of this case were read by Dr. W. P. Caven. A. W., male, aged 34 years. Suffered from migraine from childhood. In the summer of 1899 he was first told that he had Bright's disease. The kidneys were known to be sound in 1892, when he was passed for life insurance. In 1896 he had had a great deal of worry, and traces the commencement of his ill-health from that time. He came under Dr. Caven's observation in 1901, and the diagnosis was suffering from Bright's disease. The quantity of urine passed varied from 60 to 80 ounces in the twenty-four hours, and three to seven grammes to the litre, albumin. Hyaline, granular and fatty casts present in great abundance; urea from one and a-half to two per cent. On January 3rd, 1902, under chloroform, Dr. Peters performed encapsulation of both kidneys at one sitting. Before operation, there was a gradually increasing number of casts in the urine; none now found in the twenty-four hours. A chart was presented, and Dr. Caven stated that it could be seen by the record that there was no material change in the albumin or total quantity of urine passed, nor in the excretion of urea. The patient was very ill for some days after the operation; general health lately commencing to improve. Dr. Caven then referred to Dr. Edebohl's paper on the subject.

Dr. Peters, in continuation of Dr. Caven's remarks, stated that the operation was performed on the 3rd of January, 1902. He referred to the presence of a small abscess on the neck, which seemed to him might have some bearing on the case. Before commencing these operations there should be a preliminary preparation of about a week, regulating the bowels, diet and skin. He did not use the incision as recommended by Edebohl, but the incision Reginald Harrison uses—Edebohl being certainly preceded by Harrison, who employed it in cases of the acute disease. Dr. Peters did not deliver the kidney through the wound. Such traction cannot do good and may do harm. Edebohl delivers the kidney right out of the wound on to the surface of the body. Dr. Peters does not see any reason for this procedure. You can easily strip off the capsule from the surface of the kidney. The operation was done first on the right and afterwards on the left side at the same sitting. The right kidney was considerably enlarged. Drainage tubes were inserted on both sides. Dr. Peters stated that Edebohl had not drained except in one case. After the operation on kidneys the abscess on the neck was scraped out

and packed with gauze; it healed readily. Suppuration occurred in both wounds, but it had almost subsided at the date of reporting the case.

CAPSULAR NEPHRO-TOMY.

Dr. A. Primrose.—The first operation performed by Dr. Primrose was done before Edebohl's paper was published. His first operation was done on the right kidney and the second on the left of a boy ten years of age, who for six months had general anasarca and ascites. Photographs were presented, showing the child before and after the operation. A chart illustrating the course of the case was also shown. He had general edema over the body, particularly well marked in the face and extremities, and a very greatly distended abdomen. Before coming under Dr. Primrose's care, paracentesis abdominis had been performed seventeen times. Albumin was present in the urine; the urine contained 1.6 per cent. of albumin. On November 20th last he cut down upon the right kidney in the line following Harrison's incision, and drained for a fortnight. As a result of this operation, the urine gradually increased from twenty to forty ounces, and the albumin diminished. On December 20th, forty-two days after he came into the hospital, Dr. Primrose cut down upon the left kidney, and removed the kidney capsule entirely. In this instance he followed Edebohl's suggestion, and brought the kidney out of the wound. After this operation the child was critically ill for some days, but gradual recovery set in, and the renal symptoms gradually underwent a remarkable recrudescence. The amount of urine excreted was now forty-four ounces; the albumin diminished to 0.3 per cent.; general edema has disappeared.

Discussion on these two cases was begun by Dr. H. B. Anderson, and continued by Dr. Bingham, Mr. Cameron, Drs. McKenzie, Silverthorn, Fenton and Goldie, Drs. Caven, Peters and Primrose replying.

GEORGE ELLIOTT, *Rec. Sec.*

MANITOBA SOUTHERN MEDICAL ASSOCIATION.

The Southern Medical Association of Manitoba met at Brandon, February 26th. About sixty of the leading practitioners of the Province were present.

President McConnell, of Morden, opened the meeting with a short address. He then called on the Secretary of the Association, Dr. T. J. Lamont, to outline the work of the organization

up to date. The Secretary, who has managed to perfect the organization by his indefatigable labors in the interests of the profession, read a paper on the "Necessity of Organization in the Medical Profession." The physicians from the northern part of the Province, with that enthusiasm which characterizes this Western land, decided to form an Association, to be known as "The Northern Medical Association." The officers elected were: President, Dr. L. M. More, of Brandon; Secretary, Dr. Little, of Alexander. Executive Council: Drs. Poole, of Neepawa; Goodwin, of Elkhorn; Thompson, of Douglas; Macdonald and McDiarmid, of Brandon.

Dr. H. P. Elliot, of Morden, then read an excellent paper on "The Ethics of the Profession."

Dr. James Patterson, Dominion Health Inspector, who read a paper on the "Differential Diagnosis of Smallpox," received much praise in the discussion which followed for his able treatment of the subject. Dr. John A. Macdonald, City Health Officer of Brandon, followed with a paper on "Quarantine in Smallpox." This matter also received considerable attention.

Christian Science received severe handling in a brilliant paper by Dr. J. R. Jones, of Winnipeg.

The paper by Dr. Chown, ex-President of the Dominion Association, discussed "Gall Stones" in a masterly manner. His papers are always good, and this one did not disappoint the meeting.

The last paper on a surgical subject was read by Dr. John Hardie, of Morden. Its subject, "Delayed Union and Non-Union in Fracture," was treated in an original manner and with thoughtfulness. As a stranger among us, he made an excellent impression. He is one of the few F.R.C.S.'s in Canada.

Dr. J. O. Todd, Professor of Surgery in Manitoba University, was present, but though invited to read a paper, very generously made way for others, as the programme was lengthy. There was considerable disappointment, but his wishes were respected, as an evidence of his good-will for the Association.

Dr. Gahan, of Hartney, criticized the Manitoba Health Act in a short but very forcible speech. Dr. Gledhill, of Detroit, U.S., also gave a short address.

During the sessions, the visiting physicians were tendered a banquet by the profession in Brandon. Blackett's orchestra was present, and enlivened the proceedings with excellent selections of music.

Dr. More, President of the newly-organized association, occupied the chair. Mayor Fraser made an address of welcome on behalf of the city. Drs. McConnell, Hughes and Latimer replied.

The toast to the King being honored, the toast to the Canadian Medical Associations was proposed and replied to by Drs. Chown, Todd and Jones. Dr. McConnell proposed the toast, "The new Northern Medical Association." Drs. Macdonald, More, Fraser and Matheson replied.

It seemed to be felt by all present that such meetings as the present one, by its sociability and united aims, would effect much in cultivating a spirit of *esprit de corps* in the Manitoba Medical profession.

THE CAUSATION OF CARDIAC HYPERTROPHY BY NEPHRITIS.

Mayet (*Lyon Med.*, January 19th, 1902) has observed hypertrophy of the heart directly consecutive to toxic nephritis in two experiments, undertaken to investigate the pathology of cancer. Two rabbits were inoculated with an aqueous extract of macerated human cancer, after being previously treated by subcutaneous injections of cantharidine in oil, in order to determine the localization of the malignant growth by means of a renal lesion. In neither case was any malignant growth found *post mortem*, but in both distinct nephritis as well as marked hypertrophy of the left ventricle was seen. The first rabbit, which weighed 1,885 grams, received in five doses 1 1-2 mg. of cantharidine between May 19th and June 1st, 1895. Albumen was found in the urine soon after the first injection, but disappeared again after the third. After a transitory loss of weight, the animal strove until December, when it showed signs of spasmodic paraplegia (due to myelitis caused by cancerous toxins, and died in January, 1896. On examination, the kidneys were increased in size, and showed a uniform gray surface on section, there being no sharp distinction between cortex and medulla. The wall of the left ventricle was much thicker than normal, being twice the normal size as seen in other rabbits of similar weight. In the second case, the rabbit was much larger, weighing 3 1-2 kilos. The same dose of cantharidine, 1 1-2 mg., was administered in three injections. The urine contained albumen after the first dose, but not after the third. The animal wasted rapidly, and died in a state of profound cachexia. The kidneys were found in the same condition as those of the first animal, and the left ventricular wall was noticeably thickened, though not so much so as in the first case. Thus a diffuse nephritis of toxic origin produced marked enlargement of the left ventricle within a few months in both instances, the duration in the second case being the shorter of the two.—*British Medical Journal.*

DOMINION MEDICAL MONTHLY

AND ONTARIO MEDICAL JOURNAL

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DR. RODDICK'S BILL.

The bill presented to the Dominion House by Dr. Roddick for the purpose of securing Dominion registration, although representing years of effort upon the part of its promoter, and generally regarded by the medical profession as a fair measure, has failed to pass. It has been referred to a Special Committee, which is, we believe, a polite way of killing a bill, but even if it again emerges from the limbo of committee, the attitude of the Premier, who virtually opposed its second reading, would seem to leave no doubt that the measure is doomed to failure.

Dr. Roddick was unfortunate in being compelled to introduce his measure the day after the rejection of a motion—which was very fully discussed—intended to secure greater uniformity in the laws of the several provinces of the Dominion. To our mind it was a most unlikely thing that a measure asking that one particular law should be made identical in all the provinces should pass immediately after the House had disapproved of the general principle upon which the measure was based, and while we do not pretend to any knowledge of parliamentary procedure, it would seem to have been better policy on the part of Dr. Roddick to have withdrawn his bill rather than court certain defeat, and to have introduced it later on in the session, or even at another session.

As to the bill itself, while it had been endorsed by resolutions of the larger medical societies, we have not heard any widespread

demand among the profession for its adoption. It was generally felt that the enactment of such a measure would be to some extent desirable, yet the general attitude of the profession towards it was one of more or less indifference, rather than of active support. The reason for this was that it was not clear to those satisfied with the existing condition of things what good—beyond the adoption of a license for Canada and not for a particular province—would come from this measure.

The strongest argument brought forth by its sponsor, and urged in its support, was that the formation of a Dominion Medical Licensing Board would so increase the standard of medical education here that we would be enabled to secure reciprocity in medical registration with Great Britain. This argument is based upon two fallacies—first, that the standard required in Great Britain for license to practise is higher than in Canada, and, secondly, that reciprocity in registration with Great Britain would be advantageous to Canada. That it requires a higher degree of medical education to secure the privilege of practising in Great Britain than in Ontario for instance, is a popular superstition, and the sooner it is dispelled the better. We speak from personal knowledge when we state that the examinations of the Ontario College are as difficult, and the standard as high, if not higher, than the examinations and standard demanded by the College of Physicians and the College of Surgeons of London. But it may be claimed that it is not fair to pick out a province in which the standard is admittedly high in order to compare it with the British standard. We are not in a position to estimate fairly the standard demanded by any other province than Ontario, but we believe that if registration in Great Britain would secure registration in any part of Canada, that numbers of students would, rather than face the ordeal of the proposed Dominion Board, qualify in England by securing the L.S.A., for instance, an examination, we will venture to say, not more difficult than that required by the least particular province of the Dominion.

Again, the idea in the mind of Dr. Roddick that reciprocity in medical registration between this country and England would be of material value to Canada, is open to question. True, it would admit Canadians to the British Services, but on the other hand, it would admit British practitioners here. When we consider the fact that many of the latter are doing club-work, supplying medicines, dressings, splints, etc., for the magnificent sum of sixty-five cents per member per annum, and as has been pathetically stated, doing two men's work and receiving in return barely sufficient to keep the life in one, it cannot be argued that the advantage would be all on one side. It is reasonable to think that the number of

practitioners so situate in Great Britain who would willingly avail themselves of the new fields opened to them here would greatly outnumber the men who might seek appointment in the British Service.

It seems to us that if the advantages to be secured by having a general Canadian Medical Registration were pointed out more clearly as regards the privilege it would confer upon every Canadian of moving from one part of the country to another, without being confronted with a vexatious provincial law, and if the advantages following from this were more clearly stated and recognized, it is likely that if the bill comes up again it will secure a more active measure of support from the profession.

The attitude of Laval, if it has been correctly interpreted, is regrettable, but it is unlikely that its conservative views would prevail in the face of anything like a united demand from the members of the profession in the other provinces.

THE FIFTEEN CURES.

We have not yet received any data in reference to the fifteen patients claimed to have been cured of consumption through the administration by the hands of specially trained artists of Ozone during the past two years. We all know the difficulty of following up cases, especially when the subjects are in good health, lively, and able to move about rapidly. It is hard to put your finger on him. In view of this, the delay in presenting proofs is perhaps not to be wondered at. If, however, these fifteen, or a reasonable proportion of them, can be corralled before our next issue, we will be glad to publish the results, if possible, with "before" and "after" portraits.

Editorial Notes

ONTARIO MEDICAL ASSOCIATION.

The annual meeting of the Ontario Medical Association will be held in Toronto on the 4th and 5th of June, under the Presidency of Dr. N. A. Powell. The President has appointed Dr. J. T. Fotheringham Chairman of the Committee on Papers and Business, and it is understood several new and interesting features will be presented at this meeting. Dr. Harold C. Parsons, 72 Bloor Street West, is the General Secretary.

SURGICAL OPERATION FOR MITRAL STENOSIS.

I should feel very keenly (Lauder Brunton, *The Lancet*, Feb. 22, 1902), the disapprobation of my suggestion which your leading article on Feb. 15th seems to express, were it not that it seems to me that it has been written under a certain amount of misapprehension in regard both to my object and experiments. I fear my preliminary note to *The Lancet* of February 8th has not been sufficiently explicit, for I have no intention whatever of leaving to other workers to prove or disprove the value of the treatment I have suggested. I have just obtained a renewal of my license and certificates, and hope ere long to put my idea to experimental proof on the living animal, but "art is long and time is fleeting," and in the meanwhile many patients are suffering and dying from mitral stenosis. I cannot hope from my own experiments alone to prove the advisability of an operation against which, as stated in your leader, so many *a priori* arguments can be brought, and therefore hope that others will take up the subject as well as myself. I am quite aware of the responsibility that rests upon me for my suggestion, but I must state that while my experiments on the valves were made only on dead animals, my knowledge of the manipulation of the living heart and of the effect upon it of wounds and punctures, is based upon very numerous experiments made at intervals during the last 35 years. Some of these at least have, I believe, borne good fruit. I do not wish to claim any credit which does not belong to me, and if I am wrong I shall be glad to be corrected, but I believe that the use of strychnine as a cardiac stimulant which is now so common in this country, although still neglected abroad, dates from an experiment made by Dr. Cash and myself on the injection of strychnine into the interior of the frog's heart. This showed so clearly the stimulating effect of the drug upon the heart that I have lectured upon it in my course of pharmacology and therapeutics at St. Bartholomew's Hospital every year since, and I think it is from this hospital that the practice of using strychnine both as a cardiac and respiratory stimulant has spread, with the result, as I believe, of saving many lives.

SURGICAL TREATMENT OF MITRAL STENOSIS.

The operative treatment of wounds of the cardiac muscle is one of the latest advances in surgery. Enough has been done to show that in a certain proportion of cases—nearly 25 per cent. according to the latest statistics—life can be saved by prompt intervention and suture of cardiac wounds, at least in special cases, and the future of surgical intervention will probably give

better results than in the past. Improved technique based upon widened experience can hardly fail to show improved results. That the success already attained has been suggestive of still more daring operations in cases of cardiac abnormalities, is shown by a recent communication by Sir T. Lauder Brunton (*The London Lancet*, February 8), in which he discusses the feasibility of operation for the relief of mitral stenosis. Even a grave risk, he says, is perhaps justifiable for the chance of relieving the distressing symptoms that sometimes occur in this condition. Thus far his experimental work has been confined to the cadaver and to operations on healthy valves of cats, and very much more will be required to even make the operation a justifiable one. A needle wound of the ventricle, however, rarely gives rise to any hemorrhage, and the knife need not be thicker than a needle, but in the auricle similar puncture may cause considerable bleeding. In experiments made for other purposes, Brunton says that he has often been surprised at the tolerance of the heart to manipulation, and it seems probable that this tolerance exists also in man. In operating, the knife should be introduced during systole, as it is then less likely to wound the opposite ventricular wall. The pericardium should be opened, not only for the operation, but should be left open, to give exit to any oozing or hemorrhage, as the heart has little power to resist rapidly-occurring intrapericardial pressure. The paper is only a preliminary note, and its suggestions are tentative merely, but it is noteworthy as indicating a trend of advanced surgical ideas. "The good results," he says, "that have been obtained by surgical treatment of wounds of the heart emboldens one to hope that before very long similar good results may be obtained in cases of mitral stenosis." The practical application of the suggestion is probably still only in the dim future, if indeed it will ever be realized.—*Jour. Amer. Med. Asso.*

A PROPOSED OPERATION FOR MITRAL STENOSIS.

One of the most daring, not to say one of the wildest, of surgical dreams has lately come from a pure physician, Sir T. Lauder Brunton. It appeared in the *Lancet* for February 8th, under the heading of "Preliminary Note on the Possibility of Treating Mitral Stenosis by Surgical Methods," and we gave an abstract of it in our issue for February 22nd, in the department of Pith of Current Literature. Despairing of ever achieving success in the medicinal treatment of mitral stenosis, the author some time ago conceived the idea that it might be feasible to enlarge the mitral orifice by an incision, or to divide the valves at right angles to their bases. To test the idea, he has performed a number of ex-

periments on animals, but apparently without advancing further than to convince himself of the comparative innocuousness of subjecting the heart to manipulation of all kinds. He now relinquishes his experimental investigation and leaves his suggestion to be followed up by anybody who may be willing to enter upon the task.

Wonderfully as the possibilities of operative surgery have been unfolded within the last few decades, it is with bated breath that we contemplate such an heroic proposal as Sir Lauder Brunton's. "Beware the fury of a patient man" may in this instance have the most pointed of all possible illustrations in the daring of a medical man who has for the nonce invaded the domain of surgery. Still, he who fifty years ago should have predicted the surgical triumphs of the last half-century would undoubtedly have been looked upon as a madman, and we may take warning not to flinch at any operative procedure, however chimerical it may appear.

Of the two operations, that of directly enlarging the mitral orifice and that of incising the valves, Brunton thinks that the former is theoretically preferable, but that the latter would probably prove less difficult of execution. This seems to be questionable, for *a priori* we should think it easier to find the orifice and incise the bordering tissue than to single out and incise each cusp of the valve—either operation, be it understood, to be done without other aid to the perception than what is to be obtained by the sense of touch transmitted through a tenetome plunged into the ventricular cavity. A blinder procedure it would be difficult to imagine.—*N. Y. Med. Jour.*

THE SURGICAL TREATMENT OF MITRAL STENOSIS.

IN expressing an opinion as to the prognosis in cases of valvular diseases of the heart, the clinician is often compelled to admit that while he may be able to relieve the symptoms present and restore cardiac compensation, he is powerless to exert any curative effect upon the underlying lesion. Although there are now on record a respectable number of cases in which life has been preserved for varying periods of time as a result of prompt surgical treatment of wounds of the heart, the suggestion of a possibility of treating mitral stenosis by surgical methods is nevertheless startling, and this is all the more so as the suggestion emanates from a clinician rather than a surgeon. It is no less distinguished a therapist than Sir Lauder Brunton (*Lancet*, February 8th, 1902, p. 352) who discusses such a proposition in a preliminary

note. Having been struck by the ease with which the constricted mitral orifice could be divided after death, he was led to undertake some experiments upon lower animals. As between enlarging the mitral orifice by elongating the mitral opening or cutting through the valves at the middle, it was concluded that although the former were the better plan the latter is the more easily performed. Instruments like tenotomy knives were employed, and it was thought better to enter the heart through the ventricle rather than the auricle in order to avoid hemorrhage. The knife should be introduced during diastole to diminish the danger of wounding the opposite wall of the ventricle. The pericardium should be not only opened, but also kept open. In the cadaver the heart was exposed by making two incisions from the left edge of the sternum outward to the left, the one along the lower border of the third rib and the other along the lower border of the fifth rib, and connecting their outer extremities by a third incision, and dividing both the soft structures and the fourth and fifth ribs. The window thus made was forcibly reflected on the sternum, the lung pushed back, the pericardium divided, and the knife introduced into the ventricle. If one desired to enter the heart through the auricle, it would probably be necessary to make an incision along the lower border of the second rib, although by pulling on the heart it might be displaced sufficiently to allow the introduction of a knife into the auricle, even if the incision were made at the lower border to the third rib.

There are few clinicians who would recommend such a radical procedure as that here presented, and few surgeons bold enough to carry it out, even if there were patients willing "to balance the risk of a shortened life against the certainty of a prolonged period of existence, which could hardly be called life, as the only conditions under which it could be continued might be worse to them than death."—*The Medical Record*.

THE SURGICAL TREATMENT OF MITRAL STENOSIS.

After all, there is nothing like imagination, no matter the occupation to which it is applied. It was imagination that made possible the telephone, the phonograph, even the steam-engine, and the lightning-rod. Why, then, should we suppose that it is necessary to restrict it to literature and art? If it is admitted to engineering and other of the mechanical branches, surgery should certainly have the opportunity to benefit by its suggestions, and surgery certainly has so benefited. Dr. Lauder Brunton is a man

of imagination, no matter what other qualities he may lack; his brain is ever full of extraordinary ideas, ever fertile in amazing suggestions. The internal medical man has hitherto been thrust back and ever back from citadel to citadel in his struggle with the surgeon. The man who formerly eked out a scanty income by shaving and hair-cutting whilst practising his surgery under the stern eyes of the physician, has in the course of time so asserted himself, that now the poor physician must wait upon his pleasure, and if the medical man does not call him in soon enough, he is obliged to submit to a most severe scolding. And this whilom barber has thrust him back from dominion over the abdominal cavity, from dominion over the thoracic cavity, from the supposed impenetrability of the cranium or the inaccessibility of the spinal column. One place remained: the interior of the heart has hitherto been held sacred from the surgeon's knife. The pericardial cavity has long since been conquered. Bold men have taken a stitch now and then in a wounded heart-muscle, but Dr. Lauder Brunton, although a physician himself, would deny the physician even this last place of refuge. He suggests that the most excellent method of curing mitral stenosis is not, as we have fondly believed, by rest and digitalis, but nothing less than by the incision of a bistoury through the ventricular wall and the division of the adherent mitral leaflets. Alas, poor physician! The glorious cases of chronic heart disease that never got well and always needed the doctor, will be no more. When a person finds that he has palpitation, shortness of breath and swelling of the feet he will pass by the wistful sign in the physician's window, and walk blithely up the steps to the surgeon's office. And then a little dexterous manipulation of the knife, and he goes again on his way rejoicing, perchance to play foot-ball, to row, or to climb mountains. In the meantime, now that there is nothing left but vengeance, physicians should band themselves together to suppress the irrepressible Lauder Brunton, and if they must succumb, at least go down with this final oppressor in their clutches.—*Phila. Med. Jour.*

SURGICAL OPERATION FOR MITRAL STENOSIS.

A note by Sir Lauder Brunton, published in our columns last week, contains a sufficiently heroic therapeutic suggestion. It calls attention to the grave effects of stenosis of the mitral valve, and to the possibility that relief might be obtained by a surgical division of the diseased valve. With an ambition to bring relief to these patients, Sir Lauder Brunton obtained a license and certifies a year ago to enable him to test on animals the validity

of his suggestion. We gather that he has proceeded no further than the table of the dead-house in making his investigation, and having many other claims upon his time he now publishes the suggestion in the hope that others will complete what he has begun. This is a somewhat unusual course to pursue, and we think that Sir Lauder Brunton would have been better advised to have himself completed his experiments, even at considerable inconvenience, rather than to incite others to pursue a path in the unknown which must be beset with very grave difficulties and responsibility. The experiments on animals which he advocates require considerable delicacy and skill on the part of the experimenter, and we have a strong feeling that the man with whom the idea originated is certainly the most fitted to cope with the initial difficulties, and to bring the experiments to a satisfactory conclusion, if that be possible.

Having taken this preliminary objection to the form in which the proposal has been published, let us consider the proposal itself. As it is only a suggestion, and the operation has never been performed, we can only fall back on *a priori* arguments. And we are all aware how fallacious such arguments are. How many of the great advances which have raised surgery to its present exalted position have been ruthlessly condemned on *a priori* grounds? The surgery of the brain, the stomach, the spleen, the liver, and the uterus has all been advanced and almost perfected in spite of weighty *a priori* reasons against the procedures which are now known to be useful. So that, as a general rule, we deprecate such a line of reasoning. Experiment and observation are the "weapons of our warfare," and the only ones in which we have much confidence. But Sir Lauder Brunton's proposal challenges criticism in two directions—the difficulty of the operation and the doubt as to its efficacy, even if successfully carried out. On a dead and motionless heart the division of the mitral valve through a fine puncture in the ventricle is a difficult and very delicate step. But when the operation is complicated by the rapid movements of the auricle and ventricle, and the respiratory movements of the chest, it is plain that the operation is beset with very grave difficulties—difficulties that only the boldest surgeons, with the best-balanced sense of the limitations of their science, could for a moment face. We think that these difficulties have been underestimated and that the very technique of the operation will prove fatal to its adoption. The introduction of a fine knife through the ventricular wall would have to be done rapidly, and then the manipulation of the knife into the orifice between the deformed cusps of the mitral valve and the section of the valve would also have to be accomplished very rapidly; and all this in

conditions most embarrassing and most destructive of that entire self-control which is the chief secret of success in rapid and exact surgical manœuvres. But were this difficulty overcome, and the safety and feasibility of the operation established, a further doubt arises in our mind. If the narrowed valve is divided, what hope is there that the incision in the valve will heal without renewing the contraction? The incision in such a valve would show a great tendency to unite directly, and the state of the valve would then be worse than before. It has been clearly established in the surgical treatment of stricture of the urethra or rectum that simple division of the contracted fibrous tissue is of little good unless it is followed up by the frequent passage of suitable instruments to keep the mucous canals quite free and open, and so to prevent the direct union of the edges of the wound. Now, this cannot be done in the valvular orifices of the heart. If it is urged that the force with which the blood is driven through from the auricle is sufficient to keep open the passage, it must be replied that this force proved in the first place wholly inadequate to prevent the contraction of the valve, and, therefore, that there is little reason to hope that it would prove efficient in resisting a still stronger contracting force. It has also to be borne in mind that the operation might convert the valvular lesion from a mitral stenosis into a mitral regurgitation with very doubtful benefit to the patient, for the difficulties of the procedure must be enormous.

Should our anticipations be proved to be groundless we shall indeed rejoice to witness an extension of surgery which might be attended with great alleviation of human suffering. But we can only repeat that the mere suggestion of surgical operation for the relief of mitral stenosis casts a grave responsibility upon Sir Lauder Brunton, and a responsibility that he does not lessen by now leaving it to other workers to prove or to disprove its value.—*The Lancet.*

News Items

A NEW Civic Hospital for Montreal has at last been decided on.

THE Grosse Isle Quarantine Station is being improved to the extent of \$60,000.

THE new Medical Building of the Toronto University is to be on the same plan as the new building being erected in connection with Harvard University.

DR. J. ORLANDO ORR has been elected 2nd Vice-President of the Industrial Exhibition.

AT McGill there are 490 medical students in attendance on lectures during the present session.

THE Toronto Orthopedic Hospital still requires \$20,000.00 for the completion of its new building.

THE Protestant Hospital for Insane, Quebec, is receiving power from the Legislature to enable it to borrow \$65,000.

MONTREAL has decided to erect a new Contagious Diseases Hospital for other than smallpox patients. It will cost \$50,000.

SANITARY COMMITTEE OF INDUSTRIAL EXHIBITION.—Dr. A. Lynd (Chairman), Drs. Hamilton, King, and W. H. B. Aikins; and Messrs Gibbard and Hargreaves.

DISEASED immigrants, according to statements in the public press, have been gaining access to United States points through Canada. According to the Hon. the Minister of Agriculture, there is no truth in this statement.

APPOINTMENT.—Dr. T. A. McCollum, of Dunnville, Ont., has been appointed Superintendent of the London Asylum for the Insane. Dr. McCollum has been a prominent practitioner of the Niagara Peninsula for over twenty years.

Dr. D. J. Gibb Wishart spent the first week of this month in New York attending the meeting of the eastern section of the American Laryngological, Rhinological and Otological Society, and in visiting the hospitals there and in Philadelphia.

ONTARIO HOSPITALS ASSOCIATION.—Representatives from the leading hospitals of the Province met recently in Toronto and organized the above Association. The Association will meet annually in Toronto at the time of the meeting of the Legislature. Dr. John Ferguson, of the Western Hospital, Toronto, was elected Secretary-Treasurer.

MONTREAL GENERAL HOSPITAL.—During the year 1901, there were discharged from the Montreal General Hospital 2,573 patients; 148 died, a death rate of 7.7 per cent., as compared with 8.5 per cent. for the previous year. There remained in the institution at the end of the year 168 patients. The average cost per patient was \$1.43. In the outdoor departments there were 20,189 consultations.

DR. R. F. RUTTAN, Registrar of the Faculty of Medicine at McGill University, has issued a circular to the students of the graduating class in medicine who are American citizens, to the effect that owing to extensions of the medical system of the United States Army, there will be some sixty original vacancies that will be filled by competitive examination. Several McGill students will compete for these positions.

THE Senate of Toronto University has passed a statute under the terms of which it will be possible hereafter for a candidate to secure the degree of Bachelor of Arts at the end of the fourth year, and Bachelor of Medicine at the end of the sixth year. It is proposed to introduce anatomy as an option in the third and fourth years, and in this way to enable a student at the end of his fourth year in Arts to proceed directly to his fourth year in Medicine.

DR. HARRY J. WATSON, Trinity Medical College, '96, who has been serving in the American Army Medical Service in the Philippines for the past two years, has been appointed chief of the Medical Department of the largest Brigade Hospital in the Philippines. There are over 475 doctors in the U. S. Army in those islands, and this appointment is a distinct honor for Dr. Watson. "Harry's" many old friends at Trinity will be glad to hear of his success.

DR. PAUL E. PREVOST, Recorder of Vital Statistics for the Province of Quebec, states that the number of deaths from tuberculosis in that Province in 1897 was 3,079; in 1898, 2,876; in 1899, 3,085; in 1900, 3,015. In Montreal alone there were 791 deaths from consumption in 1900, which was 10.32 per cent. of the deaths from all causes. The whole subject of tuberculosis is to come up for discussion in the Quebec Legislature, and an effort will be made to obtain grants from the Government towards the erection and maintenance of sanatoria.

THE question of vaccination has recently been discussed in the legislature of the Province of Quebec. One of the members of that body has a bill before the House seeking to amend the health laws of the province to curtail the powers of the Board of Health in country municipalities, thus permitting municipal councils to take control of health affairs. The complaint of the honorable member was that the manner in which vaccination was controlled by the Provincial Board of Health was altogether too arbitrary. The bill has been sent to the Committee on Legislation.

A VERY representative gathering of French-Canadian practitioners was recently held in Montreal, when it was unanimously

decided to hold a Congress of the French doctors of America at Quebec during the time of the celebration of the golden jubilee of Laval University, Quebec. The election of officers was as follows: President, Dr. Brochu, Professor of the Medical Faculty of Laval University, Quebec; Vice-President for Montreal and the Province of Quebec, Dr. E. P. Lachapelle; Vice-President for Ontario, Dr. C. Prevost, Ottawa; Vice-President for the United States, Dr. Archambault, of Cohoes, N.Y. General Secretaries, Dr. A. Simard, of Quebec, and Dr. LeSage, of Montreal. It was also decided to ask the following to become Honorary Presidents, to represent a Medical Faculty of a University of the Province: Dr. Craik, of McGill; Dr. F. W. Campbell, of Bishop's; Dr. Rottot, of Laval, Montreal; Dr. Simard, of Laval, Quebec.

Obituaries

DR. RICHARD MAURICE BUCKE, LONDON, ONT.

Medical Superintendent Asylum for Insane, London, Ont.

By a fatal accident, Dr. Richard Maurice Bucke, the eminent International alienist, met his death on the evening of the 19th of February. Deceased was the life-long friend and literary executor of the poet Walt Whitman. The following sketch of his life was written by himself, and appeared in the *Toronto Mail and Empire*:

Richard Maurice Bucke was born 18th March, 1837, at Methwold, Norfolk, England, at which place his father was curate. The next year the family, consisting of father, mother, five boys and two girls, emigrated to Canada. They bought and settled upon a farm near London, Ontario, at that time a village of perhaps a dozen houses. The country was almost entirely covered with forest, through and in which roamed and lived Indians, wolves and bears.

The Rev. H. W. Bucke, who had been educated at Trinity College, Cambridge, was master of seven languages, and brought with him to his Canadian home a library of several thousand volumes in English, French, Italian, Spanish, Latin, Greek, and Hebrew. Schools at that time, in that part of the country, were few and indifferent. As the boys grew up their father taught them to read, in some cases in one, in other cases in several, languages; beyond that, each was his own schoolmaster. Another boy was born in Canada, and in spite of almost total want of ordinary so-called education, three of the six became doctors and

one a lawyer; two of the doctors rose to a certain local celebrity, while the other died young.

By the time Maurice was sixteen he had lost his father and mother, and having become dissatisfied with his home he left it, and for five years wandered and worked through the Middle and Southern cities from Ohio to Louisiana, and in the two latter of the five years he crossed the plains from the Missouri River to the Pacific, and worked in the placer mines of Western Nevada.

Crossing the continent on the Humboldt River, midway between Salt Lake and California, he and his party fought the Shoshones half the day, nearly died of thirst, and afterwards were almost starved to death. Later Maurice and one companion were lost in the Sierra Nevadas. This was in the fall of 1857. They had been unavoidably delayed in starting across the mountains. When half way over they were caught in a snowstorm, which lasted for many days, almost without pause. For nearly a week they were locked up in Squaw Valley, in the heart of the mountains. They killed the donkey which they had taken with them to carry their baggage. They ate the donkey meat without salt, and waited, perforce, for the air to clear, so that they might see which way to go. They at last forced their way across the Western summit, but were again arrested by the blinding snow. Again they pushed on, and again were stopped by the snow. They lost their road, wandered at haphazard, following the waters down. After five days and four nights without food or fire, stumbling and staggering through the deep snow, ready to faint with fatigue, want of food and of sleep, they came to a small mining camp far back in the mountains. Here Maurice's companion died of exhaustion. Maurice was confined to bed for months attended by the miners, and next spring returned home by way of the Isthmus.

On his return to Canada he studied medicine, and graduated from McGill University, Montreal, Que., in the spring of 1862, the gold medallist of his year. He then spent two years studying in London and Paris, returned to Canada, went almost immediately from there to California on some business connected with the Comstock lode, returned to Canada in 1865, married, settled down, and practised medicine for ten years. In 1876 he was appointed Medical Superintendent of the Asylum for the Insane, Hamilton. The next year, the Superintendent of the larger asylum at London having died, he was sent there, and continued in charge to the present time.

At London Asylum Dr. Bucke, within the last twenty years (1) inaugurated in America absolute non-restraint; (2) discontinued absolutely the use of beer, wine or alcohol in any form;

and (3) brought to bear, systematically, for the first time gynecological surgery in the treatment of insane women.

In the London Asylum restraint and alcohol have been abolished for sixteen years; and within the last five years more than two hundred women have been operated on, with the result that dozens of insane women, from the old point of view hopelessly incurable, have been restored to a life of sanity and usefulness.

Dr. Bucke was known to most students of "Leaves of Grass" as a warm and almost life-long friend of Walt Whitman. He had the largest and best Whitman collection in the world. In 1883 he published a "Life of Whitman," which is still the standard book on the subject.

Dr. Bucke's contributions to periodical literature have been numerous. They have dealt principally with "Mental and Moral Philosophy," "Walt Whitman and 'Leaves of Grass,'" "The Bacon-Shakespeare Question," "The Treatment of the Insane, and Especially the Necessity of Removing Physical Disease (where it exists) as a Step Towards the Relief of Mental Alienation."

It is pretty well known to Dr. Bucke's friends that within the last ten years he had written a work on mental evolution called "Cosmic Consciousness," which will probably shortly be published.

Finally, Dr. Bucke claimed that he had, within the last two years, discovered absolute proof of the Baconian authorship of the so-called Shakespeare plays. This proof he expected very soon to publish.

The life of this man illustrates forcibly the relative values of education and inherent tendency. Down to the age of twenty-one he learned (from the point of view of the schools) nothing. In three and a half years from that time he was graduated with high honors from the best medical school in Canada. His private library to-day contains more than five thousand volumes, in several languages, and he was fairly conversant with several pretty large subjects. It is an interesting question whether he would have done more and better work, or less and not so good, if he had had a regular school and college training.

In other words, do the schools give to the growing boy more than they take out of him? Or do they take out of him more than they give him?

DR. JAMES McLAREN, DEER PARK, NORTH
TORONTO, ONT.

The death of Dr. James McLaren took place on the morning of the 7th of March. Deceased was born in 1824. He was graduated in Arts from Queen's University in 1850. He studied medicine under Dr. Rolph, in the old Toronto School of Medicine, receiving his M.D. in 1853. On account of frail health he had not been in active practice for some years.

DR. JOHN COVENTRY, WINDSOR, ONT.

Dr. John Coventry, of Windsor, Ont., died on the 22nd of February of pneumonia. Deceased was Health Officer of Windsor, and a past president of the Ontario Medical Association.

DR. GEORGE W. JACKES, EGLINTON, ONT.

Dr. Jackes died suddenly on the morning of the 7th of March from apoplexy. He was in his fifty-first year, and had practised in Eglinton over twenty-five years.

Physicians' Library

Variola, Vaccination, Varicella, Cholera, Erysipelas, Whooping Cough, Hay Fever. By Dr. H. IMMERMAN, of Basle. *Varicella.* By Dr. TH. VON JURGENSEN, of Tubingen. *Cholera Asiatic and Cholera Nostras.* By Dr. C. LIEBERMEISTER, of Tubingen. *Erysipelas and Erysipeloid.* By Dr. H. LENHARTZ, of Hamburg. *Whooping Cough and Hay Fever.* By Dr. G. STICKER, of Biessen. Edited, with additions, by Sir J. W. MOORE, B.A., M.D., F.R.C.P.I., Professor of the Practice of Medicine, Royal College of Surgeons, Ireland. Handsome octavo volume of 682 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902. Canadian Agents: J. A. Carveth & Co., Toronto. Cloth, \$5.00 net; half morocco, \$6.00 net.

Abstracts

DILATATION OF THE HEART IN CHILDREN.

Cardiac dilatation (Dr. Eustace Smith, *The Practitioner*, LXVIII., No. 1, January, 1902, p. 56) to a moderate extent is far from uncommon in early life; indeed, in childhood the heart may be said to dilate with exceptional ease. The dilatation may be found quite apart from valvular mischief. It is due to blood pressure in a flabby, ill-nourished or degenerated heart, and may occur without there being any special bar to the passage of blood from the organ. Anemic, weakly boys who overtax their strength in violent games often show an appreciable degree of cardiac dilatation. In children of both sexes rapid growth alone, if joined with coldness of the extremities and a poor blood, not seldom gives rise to the same condition. In nephritis there is heightened pressure in the glomerular loops and dilatation of the left side of the heart may occur and be followed by a moderate hypertrophy, whether the inflammatory condition be acute or chronic. So, also, in broncho-pneumonia, when the superficial veins are noticed to be turgid and prominent, signs of dilatation of the right ventricle may often be discovered. Other diseases in which cardiac dilatation is apt to occur are the infectious fevers and allied septic states. In diphtheria especially rapid and extreme dilatation of the heart may give rise to very serious apprehensions. The complication is also common in acute rheumatism and influenza, and introduces into each of these diseases an additional element of danger.

Dr. D. B. Lees has called attention to the constancy with which cardiac dilatation occurs in acute rheumatism, and to the importance of watching carefully for this symptom. Simple acute dilatation has no relation to the rapid enlargement of the heart with expanded, thickened walls, which sometimes follows upon a general adhesion of the pericardium from rheumatic inflammation, and is probably more of the nature of an acute swelling, as Dr. Sidney Coupland long ago suggested; or to the more slowly produced enlargement which is, no doubt, a true hypertrophy. The dilatation now referred to arises early in an attack of acute rheumatism, and is accompanied by a thinning of the cardiac walls. The physical signs presented by this condition resemble very closely those of pericardial effusion, and probably are often mistaken for them. But it is rare after death to find in the pericardium an amount of fluid sufficient to distend the sac to the dimensions reached by a dilated heart. Moreover, as Dr.

Ewart insists, the shape of the cardiac dulness is characteristic. It reaches upwards far above the third rib, and its right border is continued downwards and outwards to the right fifth interspace to join the liver dulness, instead of curving inwards to the infra-sternal notch. In these rheumatic cases the dilatation is almost invariably accompanied by endocardial murmurs from inflammatory thickening; but it must not be forgotten that a simple dilatation of the left ventricle alone, if carried to a sufficient degree, may produce temporary incompetence of the mitral valve. This, however, ceases to be noticed as the heart returns to its normal size.

When dilatation is moderate in amount, such as we find in the anemic children referred to above, it is probably of little practical importance. The heart's apex is diffused and difficult to localize; the first sound at the apex is muffled or very thin and flapping, and the area of dulness may be widened. Sometimes the external *jugular veins* are unusually visible. On careful inquiry we often find that these children get easily out of breath, and perhaps confess to palpitations after exertion. It is rare, however, that they complain spontaneously of anything; in fact, the discomfort induced by this condition of the heart-walls seems to be small indeed, and although the heart's action is sometimes irregular, I have not noticed that the pulse becomes actually intermittent. As the health improved and the nutrition of the heart is restored, the normal physical signs return.

It is in cases of acute illness, when the dilatation is rapid and may be extreme, that we find physical signs and symptoms pointing to a very serious condition. Here the marked increase in the dull area, the feebleness and diffusion of the apex beat, the faintness of the first sound at the apex, and the weak, intermittent pulse, show that the dilatation is carried to a dangerous degree. In these cases the second sound is accentuated at the aortic as well as at the pulmonary orifice, and this point has been insisted on by Dr. Lees as an unfavorable element not to be lost sight of in prognosis. The dilatation affects the auricles as well as the ventricles, and is due to a more or less grave degeneration of the heart muscle. The danger of the case lies in the degree to which degeneration has extended. Therefore, Dr. Poynton's researches, which show that destruction of muscular fibre is carried to a greater degree in diphtheria and influenza than in rheumatism, are important as implying that the complication is less to be feared in the latter disease than it is in the two former. But still the danger is always there, and is greater or less in direct proportion to the degree of expansion of the heart cavities. In such cases, therefore, the limits of the heart should be estimated:

carefully by percussion. Dr. Lees insists that if in diphtheria or influenza the cardiac dullness is found to reach two fingers' breadth beyond the left nipple line the danger is great. In rheumatism such a degree of distension is less to be feared; but even in this disease a spread to a further finger's breadth should cause us as to regard the situation as an anxious one. In any case very rapid broadening of the area of dullness is a symptom of the utmost moment, and if it be accompanied by vomiting, coldness of the surface, and partial collapse, we should speak with great caution of the child's chances of escape. Vomiting must always be regarded with grave misgivings, as it is so often the herald of fatal syncope.

In diphtheria sudden death from this cause is a far from uncommon accident, and may occur in cases where the mildness of the throat affection has been remarked upon. Therefore, in slight attacks as well as in severe ones the limits of the heart's dullness should be noted from day to day and the child's friends should be directed to keep the patient at rest and restrain him from sitting up in his bed, or making any effort which can be avoided. In all cases of acute disease where the dilatation is rapid a recumbent position should be enforced, and on no pretence should the patient be allowed to lift even his head from the pillow. The diet should be regulated with care so as to restrict the use of foods which tend to ferment and fill the stomach with wind. Starchy puddings in these cases always cause indigestion and flatulence, and by distending the stomach and pressing upwards the diaphragm against the weakened heart may be a source of very serious danger. Baked apples, grapes, oranges and acid fruits of all kinds are to be avoided, and the patient must be fed with milk, custards, strong soups, yolk of egg and stale aerated bread or rusks, until such time as he is able to advance to boiled fish, chicken, and other kinds of solid food.

With regard to drugs, the treatment should be continued of the disease in the course of which the complication has arisen. If the case be a rheumatic one, and salicylic of soda is being taken, it is well to combine with it five or ten grains of the ammonia-citrate of iron to counteract the lowering effect of the soda salt. Iron, indeed, with strychnia should be our great resource, and the perchlorid of iron with solution of strychnia given in full doses, well diluted with aerated water, has seemed to me far superior to other remedies. But to show its full value the strychnia should be pushed as far as the patient can bear it, and in this condition children bear it well. Alcohol must not be forgotten, and the brandy and egg mixture of the British Pharmacopoeia must be given liberally, as may be thought desirable.

The moderate dilatation which occurs in anemic children requires no special precautions beyond forbidding for the time violent exertion and the more boisterous games. It quickly subsides when measures are taken to improve digestion and restore the general health.—*The Post Graduate*.

THE CARDIO-VASCULAR SYSTEM IN INTERSTITIAL NEPHRITIS.

W. J. Conklin (*Amer. Med.*, Dec. 14, 1901) says that the lesions of the cardio-vascular system which stand out prominently in a study of interstitial nephritis, are sclerosis of the arteries and hypertrophy of the left heart. They are often the earliest and most constant of the clinical manifestations, and may be detected when urinalysis yields negative results. The effect of the arterio-sclerotic process is to produce hardening of the walls of the vessels, to impair their contractility and elasticity, to increase the intravascular pressure, and ultimately to cause hypertrophy of the heart. The fibrosis is general and progressive, but affects the arterioles of different parts and organs of the body in different degrees. With few exceptions, thickened arteries and a pulse of high tension may be accepted as cardinal signs of cirrrosed kidneys. Although the two are commonly associated, yet a distinction should be made. In both conditions the artery is firm and not easily obliterated by pressure, is distended between beats, and can be rolled like a cord under the finger, but when the blood current is shut off the vessel of high tension disappears, while the one with thickened walls remains almost as tangible as before. Increased tension is always found in pronounced cases of chronic interstitial nephritis, but of more importance is the fact that increased tension is equally characteristic of the initial stages. Unless constant, it has little diagnostic importance, but yet frequently recurring temporary increase in blood pressure without obvious cause should not be ignored. In any event, increased arterial tension, temporary or permanent, may be a sign of serious import, either as a signal of impending danger or as an indication of an incipient interstitial nephritis. Paradoxical as it may seem, a certain degree of high tension is desirable in renal cirrhosis, and a sudden fall in pressure, unless due to a transient and palpable cause, is a bad omen. Low tension means a failure in heart action with diminished elimination of urine and urinary solids, increased albuminuria, and the probable onset of uremic explosions. F. Friedmann called attention to the following valuable sign in the early diagnosis of arterio-sclerosis. When the descending aorta is auscultated from the rear, the sound is heard most distinctly at a point which becomes constantly lower with increasing age. In

case of senile involution and of arterio-sclerosis at any stage, the sound is most pronounced at a point on a line between the lower corner of the scapula and the seventh dorsal vertebra; the second aortic sound is most distinct. A groaning sound at the angle of the scapula can, therefore, be accepted as a direct and early symptom of an arterial sclerosis. The lesion of the heart characteristic of interstitial nephritis is hypertrophy, simple in form and limited to the left ventricle. The right side of the heart does not become involved until late in the disease, and even then, if the enlargement is marked, it is oftener due to dilatation than to simple hypertrophy. Neither do valvular defects and murmurs occur, except in sequels of an antecedent endocarditis or of the myocardial degenerations which follow obstructive lesions. With few exceptions, idiopathic hypertrophy, that is, hypertrophy without valvular disease, is due to contracted kidneys.—*International Medical Journal*.

GLYCOSURIA IN MENTAL DISEASES.

Raimann (*British Medical Journal*, November 9, 1901) contributes, from the clinic of Wagner in Vienna, an important article based on the study of 103 patients suffering from various forms of idiocy and mental disease, to determine the capacity for assimilation of sugar in the economy, and to ascertain the degree to which this may be lost in mental diseases. Control experiments were made first on healthy subjects, who gave results showing that, after ingestion of sugar, nearly the whole was assimilated, and that the traces of sugar met with in the urine were small (less than 2 per cent. as a rule) and exhibiting little variation. In mental disease the power of assimilation was weakened or disordered, and in some a considerable excretion of sugar occurred in the urine. The chief conclusions were as follows: (a) In idiocy the assimilative capacity for sugar was high, and the same was the case in paranoia and epilepsy. (b) In acute mania the assimilative capacity was further slightly increased, and this was more so in the case of alcoholics under abstinence. (c) The assimilative capacity for sugar was low in senile dementions, and in cases of acute mental confusion (acute dementia) of paralysis. (d) It was especially low in cases of melancholia and of alcoholic delirium. (e) Diabetes might and did occur in insanity. Thus amongst the 103 patients there were two diabetics, and one of these (a paranoiac) showed an excessively high degree of sugar. (f) In a general way, out of a total of 103 patients examined, 14 (exclusive of the 2 diabetics above alluded to) showed some degree of glycosuria. (g) The

assimilation of sugar is a general metabolic function, and its disturbances in the insane are due to the action of endogenous or exogenous toxic agents or poisons absorbed into the body.—*Medical Age*.

THE PATHOLOGY OF THE WHITENING OF THE HAIR.

Metchnikoff (*Ann. Institut. Pasteur*, Dec., 1901) records observations of great interest, that apparently explain the mechanism of whitening of the hair and beard. A gradually developing grayness is one of the early signs of senility, but also may appear within a few hours or days from emotional excitement, severe intoxication, or certain rare infections. By boiling in a 10 per cent. solution of carbonate of potash, Metchnikoff was enabled to observe that the hair pigment was contained in peripapillary cells of the medulla of the hair shaft. The cuticle consists of thin fusiform cells devoid of pigment. The cells of the papillæ of the hair are also without pigment, until the hair becomes blanched, when they become pigmented. Amyloid, phagocytic cells, termed pigmentophages, were found to convey the pigment to, and remove it from, the medullary cells. The phagocytic cells appear to be of mesodermic origin. Blanching of the hair depends, therefore, upon the great activities of these cells in transporting pigment from the cells of the medulla to those of the papilla. A method of preventing the removal of pigment by these cells remains to be discovered.—*International Medical Journal*.

BAACTERIOLOGY OF NORMAL LUNGS.

Boni (*Deut. Arch. f. klin. Med.*, Bd. lxxix., Heft 5 and 6) has bacteriologically examined the lungs of certain healthy animals, human lungs being rarely available for the purpose. He found the lungs of animals in the laboratory (guinea pigs) almost always sterile; in some cases, however, some organisms were present, and, in a few cases, the pneumococcus. The lungs of freshly-killed animals in the slaughterhouse in most cases contained organisms, (including the following pathogenic types: *Diplococcus pneumoniae*, *Streptococcus pyogenes*, Friedlander's pneumobacillus, *Staphylococcus pyogenes aureus*, the first being the most common (25 per cent.)). From these results he concludes that the normal lungs of healthy men must in most cases contain a varying number of bacteria, the pneumococcus predominating. All the pathogenic bacteria found were possessed of only a small degree of virulence. The bacillus tuberculosis was not found in healthy animals.—*British Medical Journal*.

Special Selections

VALVULAR HEART DISEASE IN RELATION TO PREGNANCY AND LABOR.

BY J. CLARENCE WEBSTER, M.D.,

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Notwithstanding the very serious nature of cardiac disease complicating pregnancy, labor, and the puerperium, it is only within recent years that this important subject has received any special attention in obstetrical text-books. Though a good deal has been done of late to point out the special dangers associated with the different cardiac affections, there is at the present time some difference of opinion both in regard to the causes of these dangers and the methods of dealing with them.

Before 1871, in most text-books—*e.g.*, Burns's, Davis's, Nagele's, etc.—no mention whatever is made of heart-diseases in connection with the pathology of pregnancy. There are various references to edema, dyspnea, cough, etc., but these are only considered symptomatically. Plenck, in his work, refers to asthmatic and other conditions which disturb the breathing, and so interfere with bearing-down efforts in labor. Ramsbotham long ago described a case of mitral stenosis which died immediately after labor, the lungs being greatly congested. Busch makes reference to heart disease merely as one of the conditions causing asthma which may be found as a complication of pregnancy. Hecker, in 1860, described a case of mitral stenosis which died during a premature labor, and another of mitral incompetence which died on the 23rd day after labor. In discussing the pathology, he thought that the lungs, being congested from the heart condition, were also much affected by diminution of the chest space by the pressure of the gravid uterus, and so ceased action; he also believed that the heart might be exhausted as well from the effort of the labor. Caxeaux, in 1867, pointed out the importance of endocarditis as a cause of sudden death in labor, and he indicated, as regards treatment, that the second stage should be made as short as possible, artificial delivery being employed if necessary. Spiegelberg was the first, however, to give this subject special consideration, and his paper, published in 1871, attracted a good deal of attention. He discussed the changes in the circulatory system resulting from pregnancy, comparing them with those

brought about through the emptying of the uterus; he also considered the differences between mitral and aortic affections. In 1872, Peter, of Paris, wrote an important paper, referring especially to the pulmonary dangers resulting from cardiac diseases in pregnancy. In the same year Lebert wrote an exhaustive article, in which reference is made to the great dangers of affections of the right side of the heart. In 1875 Fritsch discussed the subject, attacking especially some of Spiegelberg's views. In 1876, Lahn sharply criticized Fritsch's opinions, and Fritsch replied in a valuable paper, giving an account of several interesting cases. In 1876, Lohlein discussed Spiegelberg's views, and published some new observations of his own. In 1878, Angus Macdonald wrote his valuable work containing a careful *resumé* of collected cases. In 1880, Porak published a large number of cases. In 1888 Berry Hart wrote his paper, dwelling mainly on the relation of mitral stenosis to the third stage. Since that year a considerable number of interesting articles have been written by other writers.

It is very difficult to estimate accurately the mortality in cases of pregnancy and labor complicated by cardiac disease in which no treatment is carried out. The heaviest death-rate is in cases where pregnancy has occurred while the heart affection is of recent origin. Such cases are not common, however, and no satisfactory statistics can be given regarding them. In this paper attention will be devoted mainly to those cases in which the heart lesion is in a chronic condition.

As is well known, many of these may pass through pregnancy and labor perfectly safely and with little or no disturbance. The published mortality statistics are only approximate, and really refer to cases in which the symptoms were bad enough to attract the physician's attention. In 92 cases collected by Porak, the death-rate was 38.09 per cent.; in 118 by Remy, 33.8 per cent.; in 20 by Leyden, 55 per cent.; in 30 by Sears, 33.3 per cent.; in 77 by Wessner, 37 per cent.; in 58 by P. Muller, 39.65 per cent. When we analyze statistics more closely in order to determine the relative frequency and danger of the different varieties of heart-lesion, we get the following results. (Right-sided affections are so rare that they can be put out of count. Our attention is therefore limited to mitral and aortic disease.)

Mitral Stenosis.—In Porak's 92 cases there were 13 of this variety, the mortality being 61.53 per cent.; in Macdonald's 31 cases, 14, the mortality being 64.4 per cent.; in Remy's 118 cases, 19, the mortality being 53.15 per cent.; in Sears's 30 cases, 14, the mortality being 46.6 per cent.

Mitral Regurgitation.—In Porak's 92 cases there were 22 of

this variety, the mortality being 13.63 per cent.; in Macdonald's 31 cases, 8, the mortality being 50 per cent.; in Remy's 118 cases, 29, the mortality being 20.68 per cent.

Aortic Lesions.—In Porak's 92 cases there were 13 with aortic lesions, the mortality being 23.07 per cent.; in Remy's 118 cases, 17, the mortality being 11.76 per cent.; in Sears's 30 cases, 6, the mortality being 16.66 per cent.

Combined Mitral Lesions.—In Porak's 92 cases there were 22 of this variety, the mortality being 45.45 per cent.; in Remy's 118 cases, 15, the mortality being 40 per cent.

Complex Lesions (Mitral and Aortic).—In Porak's 92 cases there were 22 of this variety, the mortality being 50 per cent.; in Remy's 118 cases, 16, the mortality being 18.75 per cent.; in Sears's 30 cases, 7, the mortality being 54.14 per cent.

As far, then, as we can judge from statistics, there seems to be no doubt that the most fatal lesion is mitral stenosis.

When a patient suffering from a chronic cardiac valvular affection becomes pregnant, what is likely to be the course of her history? The chief normal changes in the circulatory system during pregnancy are as follows: The vascular area is increased owing to the enormous development of vessels in the uterus, and to the dilatation which occurs in the pelvic vessels, especially in the veins of the connective tissue, e.g., parametric, paravaginal, and paravesical. (This is well shown in sections of the pregnant woman.)

The total quantity of blood in the maternal system is increased, there being in early pregnancy relative increase of the water and diminution of the red corpuscles, hemoglobin, and albumen, while in the late months, according to Schroeder, Fehling, and others, there is an augmentation of these latter elements. There is more extractive matter than in the non-pregnant state. The increase in fibrin elements is especially found during the last three or four months, and is due, according to Nasse, to the breaking up of leucocytes, which are relatively and actually greater than before pregnancy. The red corpuscles are somewhat multiplied, but are relatively less abundant than in the non-pregnant state. There is therefore a relative diminution of hemoglobin, though each red corpuscle has its normal amount, or slightly more than normal.

Systolic murmurs, mainly basal, develop in a considerable percentage of cases. These are probably due to the altered condition of the blood, but cardiac dilatation may be a factor in their production. The increased work demanded of the heart is met by hypertrophy, mainly of the left ventricle. Blot states that the organ increases one-fifth in weight in pregnancy. There is still a dispute as to how much of the organ hypertrophies, and as to

whether dilatation occurs as well. Angus Macdonald's opinion is probably correct, viz., that all the chambers of the heart during the latter months of pregnancy become somewhat dilated. Undoubtedly increased work is demanded of the right as well as of the left side of the heart, because as Charpentier so strongly insists, there is increased engorgement and tension in the pulmonary as well as in the systemic vascular system. It is stated by some that there is an increase in the frequency of the cardiac contraction during pregnancy, though this is denied by others. Jarissenne says that in pregnancy the pulse-rate doesn't vary with a change from the erect to the horizontal position. (This was pointed out by Graves in connection with cardiac hypertrophies generally.)

There is still a dispute regarding the interference with the thorax caused by the uterine swelling. According to Wintrich, Fabius, and others, the vital capacity of the lungs is constant throughout pregnancy; according to Dohrn it is diminished. Frozen sections show that there is found in late pregnancy increased breadth and diminished depth in the thorax, but the vital capacity of the lungs is probably not much altered.

Is there an endocarditis of pregnancy?

True valvular disease rarely ever begins in pregnancy. When it does, it is probably mainly due to one of the influences which lead to its production in the non-pregnant state, *e.g.*, rheumatism, sepsis, etc. Certain writers, however, think that a true pregnancy endocarditis may arise. They point out the conditions which may favor valvular changes, *e.g.*, hypertrophy, dilatation, altered blood-pressure, increase of fibrin elements in the blood. Ollivier has described three cases in which endocarditis seemed to develop as a result of pregnancy influences. He thinks that the mitral valve is most likely to be affected. The question is not easy to settle, though it must be admitted that the circulatory conditions of pregnancy would undoubtedly favor the development of valvular disease if a rheumatic or septic influence were present.

Acute endocarditis is very rarely found in pregnancy, and must be regarded as a more serious disease than it is in the non-pregnant.

The great majority of cases are those of chronic valvular disease of the left side of the heart, which existed before the pregnancy began. The gravest cases are those in which pregnancy occurs before compensation has been well established after recent mitral or aortic disease. Of the cases in which the endocarditis is not recent, compensation having been well established, mitral stenosis is the most serious form of heart lesion. Of the two

valves, the mitral is more frequently affected than the aortic. Sometimes both are diseased.

The effects of pregnancy on a woman who has a valvular lesion vary greatly. These depend upon a variety of factors, *e.g.*, the situation and extent of the disease, the degree of compensation existing at the beginning of pregnancy, the general health of the patient, her habits, occupation, etc. The nutrition of the cardiac muscle may be affected by an abnormally poor state of the blood. The resulting weakness would tend to favor early or rapid failure in compensation. There is always a danger, especially when the disease is recent, that fresh fibrin-vegetations may form on the valve, owing to the increased hyperinosemia of the blood of the pregnant woman. In some cases, also, apart from mechanical stretching which may gradually affect the valve, there may be recrudescence of the original disease, which may lead to further destruction of the valve. The main element of danger common to all cases is, undoubtedly, the work thrown on the heart as a result of the increased quantity of circulating blood. This factor is most serious in the advanced months of gestation, when the uterus reaches a large size.

Another influence which plays a role is the distention of the abdomen, especially if this be abnormal from excessive size of the uterus, *e.g.*, where there is hydramnios, twins, or a single large child; or from flatulence and constipation.

Of great importance are disturbed metabolism and imperfect elimination, whereby toxic matters circulate and directly poison the cardiac muscle.

Indeed, the various factors introduced by pregnancy are so serious that effects may be brought about which, in the non-pregnant state, might not be met with until after a number of years. The woman with heart disease has, *caeteris paribus*, a shorter life expectation if she exercises the function of child-bearing, and her dangers increase with succeeding pregnancies.

In some cases, owing to the perfect response of the heart to the additional strain thrown upon it, the woman may pass through pregnancy with no more discomfort than may be found in normal cases. When, however, the cardiac compensation is not sufficient, one or more of the well-known signs and symptoms—*e.g.*, breathlessness, cough, dyspnea, edema, etc.—make their appearance. In aortic disease, disturbances are less common and usually less severe than in mitral disease, and they appear in most cases during the late months of gestation. The symptoms are mainly palpitation and dyspnea. In some cases premature emptying of the uterus may be caused.

It is in mitral disease, especially where stenosis exists, that the

most marked symptoms occur, and though they usually supervene after mid-term, they may often develop earlier.

The increased risks to the woman in mitral disease, especially in stenosis, are pulmonary congestion and dilatation and weakening of the right side of the heart.

The health of the fetus tends to be impaired, both from the imperfectly oxygenated condition of the maternal blood, as well as from the destruction of portions of the placenta by hemorrhages into it from the maternal vessels. Expulsion of the uterine contents may thus be brought about.

Sometimes death may occur in pregnancy from heart failure, without the occurrence of premature emptying of the uterus, but in most cases the fatality is associated with this event, or follows it. It has been reported in connection with an abortion in early pregnancy, though this is rare.

Very few women go to full term without the appearance of some abnormal signs and symptoms. These vary considerably in different cases. Most frequent are dyspnea, palpitation, and edema. These may be slight or marked. When pulmonary congestion and dilatation of the right heart increase, the outlook is serious. Ascites, albuminuria, hemorrhages, and embolism are also very grave signs.

The majority of cases which go to term become worse during the last weeks, the symptoms being more pronounced if there be alimentary disorders causing flatulence, and thereby increased pressure on the heart through the diaphragm. Moreover, patients often become despondent and nervous, lose their appetite, and suffer from sleeplessness at this time.

Treatment.—In regard to the influence of cardiac diseases in deciding the question of marriage different views are held. Very common is the opinion that no woman with organic heart disease should marry, if her well-being alone be taken into consideration. Some authorities would insist upon this restriction only in special cases, *e.g.*, in mitral stenosis when the woman's health is not good, or when some other bodily lesion exists.

When pregnancy takes place the woman should be carefully looked after from the beginning. Her daily routine should be regular and well-ordered. She must be guarded from strain, worry, anxiety, sudden shock. Her diet should be very nourishing, easily digested, and the bowels should be carefully regulated. The woman should stay out-of-doors as much as possible in fine weather, avoiding chills and dampness; she may take easy walks and carriage drives. In the late months she must be kept more at rest, massage of the limbs being frequently beneficial.

As to medicinal treatment, none is required in the few cases

which have no abnormal symptoms or signs during pregnancy. In most instances tonics are needed, *e.g.*, iron, arsenic, strychnine. Strophanthus, digitalis, and nitroglycerin are of the greatest value in strengthening the heart-muscle, and are indicated when there are signs of heart failure, *e.g.*, breathlessness, dyspnea, cough, edema, increasing irregularity, weakness of pulse, etc. When digitalis is used, a nitrite should be given at the same time in order to counteract the effect of the digitalis in contracting arterioles and so raising arterial resistance. Diuretin is valuable in relieving edema in various tissues.

If abortion or premature labor threatens, what is to be done? It is difficult to speak decidedly with reference to this question. Some authorities advise the emptying of the uterus as a routine practice. Others are guided by the condition of the mother, urging that if she be in a good state an effort should be made to carry on the gestation. This is effected by enjoining absolute rest in bed, together with morphine administration. Sometimes it is advisable to bleed the patient once or twice.

If the patient shows evidence of heart failure in connection with the signs of premature expulsion, most authorities believe that pregnancy should be terminated. When the symptoms of cardiac weakness develop in pregnancy without the threatening of premature expulsion of the ovum, what should be the course of procedure? Here, again, different views are expressed. Some hold that any symptoms whatever justify the termination of pregnancy. Others hold that this is too advanced a position, since many cases may be carried to full term, even though they may be at times troubled with palpitation, dyspnea, or edema of the limbs, by careful therapeutic measures.

When more severe signs arise—*e.g.*, increasing dilatation and irregularity of the heart, pulmonary edema and congestion, ascites, albuminuria, etc.—the uterus should be emptied in the great majority of cases, unless the husband and wife refuse their consent. Occasionally, the failure in heart compensation may be checked even where one or two of these grave conditions are present. But if improvement is not noted early, too much time must not be wasted before the uterus is emptied. In all cases in which rapid benefit is desired, bleeding stands prominent as a therapeutic measure.

In considering the question of terminating pregnancy it must always be remembered that this procedure may be as dangerous as a full-time labor, especially when the signs of cardiac failure are marked.

The operation must be carried out with special precautions,

which have for their object the avoidance of all straining on the part of the woman and of sudden rise in the blood-pressure.

In the first stage of labor trouble may start or symptoms already present may become aggravated. There may be palpitation or attacks of dyspnea. The exacerbation is due to the increased strain on the heart, and to the pulmonary congestion during the periods of uterine contraction when the circulation of blood through the uterus is interfered with. If straining efforts are made by the patient, the symptoms are more marked. At the termination of the first stage after rupture of the membranes, slight relief is experienced in some cases as a result of some diminution in the size of the uterine mass owing to the escape of liquor amnii.

During the progress of the second stage the condition of the patient tends to become worse. This is probably chiefly due to the straining efforts made to bring into action the accessory powers. Moreover, the uterine contractions are longer and more powerful, and there is a resulting greater strain on the heart from the interference with the uterine circulation. The pulse may become more rapid, irregular, or intermittent, the breathing may be rapid and oppressed, the patient being restless and having a feeling of great anxiety.

As the child escapes there may be a feeling of relief on the part of the patient from the great diminution in abdominal distention, but this may be counterbalanced by another factor, viz., the interference with the circulation caused by the retraction of the uterus, which occurs after the birth of the child. Though we do not know exactly to what extent the circulation through the retracted organ is arrested, there can be no doubt that it must be greatly slowed, less blood circulating through it, while more is thrown into the non-uterine vascular system. As a result of this there is an increased amount poured into the right side of the heart as well as a rise in arterial pressure. These changes increase the patient's risk, and often the symptoms become much worse at this time. Yet it is very rare that the patient dies immediately after the child is born. The most dangerous period is yet to follow.

It is at the end of the third stage that there is the greatest danger, especially in mitral stenosis cases. The placenta may be born all right, but immediately or soon afterwards the patient may die. What is the explanation of this? Let us look at the condition of the pelvis at this time. In my researches into the anatomy of the normal pelvis during the puerperium I found that normally after the delivery of the placenta the retracted and firmly contracted uterus forms a large mass which fills the upper

part of the pelvis like a ball-plug, compressing all the extra-uterine tissues against the bony wall. As a result of this, the circulation in the great mass of the uterus is practically checked, the organ being quite anemic; also, owing to the pressure of the uterus, the circulation in the extrauterine pelvic tissues is greatly interfered with. The only congested parts are the small lower uterine segment, the cervix, the vaginal wall, and neighboring parts of the pelvic floor. It is this very great alteration in the circulation which throws the extra burden on the already overburdened heart. The whole vascular area of the body has been greatly diminished, and the extra strain on the right side of the heart may be too much for it; over-distention of its already weak and thinned walls results, and its paralysis may follow. This condition in mitral disease was first pointed out by Spiegelberg. It has been described by Berry Hart, and I have also noticed it in a case of my own where death occurred. Fritsch, Barbour, and others deny that death is caused in this way. They think that extra strain is not thrown on the right side of the heart, but believe that the blood thrown out of the uterine circulation is accommodated in the extra-uterine vessels of the pelvis and abdomen, owing to the change in inter-abdominal pressure conditions consequent upon the emptying of the uterus. They say that the condition brought about is one of syncope, and that the cardiac failure results because an insufficient amount of blood reaches the heart, which consequently begins to beat irregularly; this, along with the nutritive defects, leading to a fatal ending.

It is important clearly to understand the difference between these two views, chiefly because the methods of treatment based upon them differ so markedly. There is no proof of Fritsch's theory. Pathological evidence goes against it. In post-mortem cases there is usually found distention of the right side of the heart, or marked distention especially of one or both auricles, and pulmonary congestion. During life the face does not show signs of syncope, but is flushed or deeply cyanosed during the period of danger. Fritsch's theory cannot explain the death which follows emptying of the uterus in early pregnancy. It is, indeed, very interesting to note that the strain thrown on the heart by an abortion may prove too much for it. Moreover, were the theory correct, syncope might be expected often to follow normal labor, whereas it is very rare, save where much blood has been lost. That some of the uterine and pelvic blood is accommodated in abdominal parietal and visceral vessels after the uterus is empty and contracted is undoubtedly true; that this does not go on to the extent described by Fritsch is equally true. The congestion of these vessels that does occur is really a condition of safety

for the patient, for the strain on the heart will be for a time diminished in proportion to the amount of blood accumulated in them. Very soon, however, the vasomotor mechanism will tend to diminish this accumulation, thereby correspondingly increasing the burden on the heart. These various factors must differ considerably in different women, and it is not therefore difficult to understand why there should be such variations in the clinical phenomena witnessed in a series of cases in which the same cardiac lesion exists.

When labor sets in, what is to be done? The patient should be carefully watched from the first. If she has been previously in good condition, she may be allowed to go through the first stage without interference, an occasional dose of a stimulant being given, if necessary. If she be very restless or makes straining efforts, she should be quieted. If it is impossible to manage this, and if signs of heart failure appear, the patient should be chloroformed and the cervix dilated with Barnes's bags or manually.

We are now at the second stage. In some instances she may pass through this stage without trouble. In bad cases, however, especially in mitral disease, she should not be allowed to pass through it in her own strength. She should be chloroformed by an assistant, who gives his whole attention to his duty, while the child is extracted with forceps. Occasional injections of ether may be required. I wish, however, especially to recommend the use of nitrite of amyl. This drug was first tried with success in heart disease complicating labor by Fraser Wright, who gave it after the third stage was completed, when his patient was in danger of dying of pulmonary and cardiac congestion. Its action is to lessen the strain of the heart through the dilatation which it causes in the small peripheral vessels throughout the body, either from paralysis of the muscular fibres of the arterioles or of the vasomotor ganglia in them. Soon after its administration (from twenty to thirty seconds) its effects are seen. The drug is best given by the chloroformist in capsules containing four or five minims, which are broken and held to the patient's nose. It is also useful in opposing the tendency to chloroform syncope; a threatening of this condition may be kept off by a careful anesthetist. As the child is delivered, the nitrite of amyl is of great value in neutralizing the increasing strain on the heart due to the additional blood thrown out of the uterine circulation, as a result of the uterine retraction which follows delivery.

Hypodermic injections of nitroglycerin may be used instead of amyl nitrite.

The third stage now follows, that most to be feared. Opin-

ions differ regarding the treatment to be employed here. According to the view of those who hold that the danger is due to the accumulation of blood in the abdominal vessels and the consequent diminished supply to the heart, the loss of blood even in drops is very dangerous. According to the view which appears to me to be correct and which I have advocated, the indication is not to conserve, but to allow the free escape of a certain amount of blood from the body in order to prevent overdistention of the lungs and of the right side of the heart. How can this best be brought about? The patient is still kept under chloroform; ether is given hypodermically from time to time, and the nitrite tends to counteract the contractility of the uterus, and so to delay the separation and expulsion of the placenta. This event must not be allowed to take place naturally, because it is apt to cause too sudden a change in the vascular pressure and to prevent the loss of blood, which it is our chief aim to bring about. Neither should the Dublin or Crede method of expelling the placenta be used, for the same reason. The most satisfactory procedure is to pass one hand into the uterus, separating the placenta gradually, the other hand being placed on the abdomen against the uterus. As the sinuses are torn through, blood escapes, the amount lost being carefully watched. In carrying out this operation the greatest skill, coolness, and judgment are required. As the uterus retracts and contracts, following the removal of the placenta, the heart should be carefully watched and another dose of nitrite of amyl given if necessary. If, owing to the amount of chloroform and amyl nitrite administered, marked contraction does not occur in the uterus, no alarm should be felt. This condition is better than sudden contraction, because the changes in the circulation are more gradually brought about. The organ can easily be compressed between the hands, and if necessary the hot douche can be used, but the latter agency should not be employed save where there is danger of the loss of too much blood. Neither should ergot be used in these cases, except in the last mentioned condition, because it opposes the escape of the blood from the uterus, which we desire to a certain extent to encourage. Hitherto it has been recommended by many to bleed the patient from the neck or arm. This, it appears to me, is altogether unnecessary, when we have at our disposal the easy method of bleeding from the uterus that I have just described.

The treatment of heart cases during the puerperium is of the greatest importance. Rest in bed for some weeks is advisable. For a time after delivery stimulants of ether and brandy may be required. Strophanthus or digitalis is to be given cautiously. The most easily digested nourishing food is to be taken. There

should be no straining at stool or in making water. The bowels should be regulated so as to move easily, and for some days the urine should be drawn off. The retrogressive changes which take place in the heart during the puerperium introduce a new element of danger, and therefore the greatest watchfulness must be exercised. Complete quiet and good nursing are imperative. The patient should not lose sleep nor be disturbed in any way. As soon as the stomach is able to bear iron it should be given.—*Medicine.*

PRELIMINARY NOTE ON THE POSSIBILITY OF TREATING MITRAL STENOSIS BY SURGICAL METHODS.

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Mitral Stenosis is not only one of the most distressing forms of cardiac disease, but in its severe forms it resists all treatment by medicine. On looking at the contracted mitral orifice in a severe case of this disease one is impressed by the hopelessness of ever finding a remedy which will enable the auricle to drive the blood in a sufficient stream through the small mitral orifice, and the wish unconsciously arises that one could divide the constriction as easily during life as one can after death. The risk which such an operation would entail naturally makes one shrink from it, but in some cases it might be well worth while for the patients to balance the risk of a shortened life against the certainty of a prolonged period of existence which could hardly be called life, as the only conditions under which it could be continued might to them be worse than death. I was much impressed by the case of a man under middle age whom I had under my care at St. Bartholomew's Hospital. For no fault of his own, but simply because of his disease, this man was really exiled from his family, and one might almost say imprisoned for life, inasmuch as he could only live in a hospital ward or a workhouse infirmary. Whenever he left the hospital ward or infirmary with an amelioration of his distressing symptoms and returned home, the exertion brought on an exacerbation and he had to leave home again in a few days to return to the hospital or infirmary. It occurred to me that it was worth while, for such a patient to run a risk, and even a very grave risk, in order to obtain such improvement as might enable him at least to stay at home. But no one would be justified in attempting such a dangerous operation as dividing a mitral stenosis on a fellow-creature without having first tested its practi-

cability and perfected its technique by previous trials on animals. Accordingly I obtained a license and certificates a year ago in order to make the necessary experiments, but unfortunately other calls upon my time have not allowed me to do more than to make trial experiments of dividing stenosed valves in diseased hearts from the *post-mortem* theatre, and on healthy valves in the hearts of cats, and also to try the proposed operation in the dead animal. It may be some months longer before I can get anything more done, and I therefore think that it may be worth while to write this preliminary note, especially as, after all, if the operation is to be done in man, it will be surgeons who will do it, and they must, of course, make their own preliminary experiments, however fully the operation may be described by others, and each must find out for himself the method which he will employ in each particular case.

The first question that arises is whether the mitral orifice should be enlarged by elongating the natural opening, or whether the valves should be cut through their middle at right angles to the normal opening. I think that there can be little doubt that the former would be the better plan, but the latter is the more easily performed, and it might be sufficient to effect the desired purpose of facilitating the flow of blood from the auricle into the ventricle. The knives which I have used have been like tenotomy knives, but some which I have had made of ladies' bonnet pins were too thin and flexible for stenosed valves, although they were sufficiently strong to divide the normal valves in the hearts of cats. The cutting edge of some of these was only a quarter of an inch, but this is too short, and a cutting edge of from half an inch to an inch is really required. The main part of the valve can be divided with comparative ease, but the thickened edge is firm and it resists the knife. I have not yet decided on the best form of knife, and its form must depend to some extent upon whether the surgeon decides to operate from the auricle or from the ventricle. The latter is less likely to bleed, as the knife need not be much thicker than a needle, and a needle wound of the ventricle rarely gives rise to any bleeding. I have often observed this in animals, especially during the experiments of the Hyderabad Chloroform Commission. The same is the case in man, whilst a needle puncture in the auricle may give rise to much bleeding.*

The plan which I have used (but only in the dead animal) for exposing the heart is that of Ninni of Naples, recommended by Rotter and described in the *Medical Review* for July, 1900, p. 400. It consists in making incisions from the left edge of the

sternum outwards to the left along the lower edges of the third and fifth ribs, connecting their outer ends by a third incision, and dividing both the soft structures and the fourth and fifth ribs. The window thus made is forcibly turned back on the sternum, the sternal attachments of the ribs yielding to the pressure. In this way the heart is sufficiently exposed, and the lung being pushed back, the pericardium can be divided and the knife can be introduced into the ventricle. I have only inserted the knife into the ventricle *in situ*, and if one wished to operate through the auricle the window would probably require to be made by an incision at the lower border of the second rib, although by pulling upon the heart it might be displaced sufficiently to allow a knife to be put into the auricle, even when the incision is made at the lower border of the third rib.

In many experiments made for other purposes, I have been astonished at the way in which the heart went on beating, apparently quite unaffected by pulling, compressing, or handling of any kind. In operating on the living heart, the knife should be introduced during diastole, as one is less likely to wound the opposite wall of the ventricle. The pericardium should not only be opened for convenience of operation, but should, I think, be left open so as to allow any blood which might ooze out through the ventricular wound to flow away instead of remaining in the pericardial cavity, for the heart has very little power indeed to resist pressure from pericardial distension, especially if it comes on rapidly.

The good results that have been obtained by surgical treatment of wounds in the heart emboldens one to hope that before very long similar good results may be obtained in cases of mitral stenosis.—*The Lancet*.

RINGWORM: A NOTE ON ITS TREATMENT.*

BY GEORGE THOMAS JACKSON, M.D., NEW YORK.
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Ringworm, like the poor, we have always with us. No matter where a doctor's work may lie, whether in the city or in the country, if he is in general practice, he will, sooner or later, be called upon to treat ringworm. There are few diseases of the skin easier to cure than ringworm of the so-called non-hairy parts of the body. Sulphur, iodine, salicylic acid, mercury—any one

* Read before the Medical Society of the State of New York.

of these in ointment or lotion will cure it. Indeed, most of them are not brought to the doctor, but cured by means of domestic remedies.

While it is easy to cure ringworm of the non-hairy parts, it is difficult to cure ringworm of the scalp and beard, especially the former. In many communities a case of ringworm of the scalp will float around from one doctor to another, and will persist in spite of their best endeavors. No conscientious physician will promise a speedy cure. If the patient is well in six months or a year, the doctor can congratulate himself upon his success.

To a certain extent, this is true of ringworm of the beard, barber's itch. While by no means as intractable as ringworm of the scalp, still six months is often necessary for a cure under most methods of treatment. The reason for the intractability of ringworm of the scalp and beard is that the fungus grows down into the hair follicles, and it is very difficult to make our well-recognized antiparasitics penetrate to the seat of the trouble without damaging the skin.

It is not my intention to detail to you the many methods of treatment with which you are all more or less familiar, but to commend to you one that I have used for some years with excellent effect, and to ask you to give it a trial.

In looking for an excipient that would penetrate easily and be bland, goose grease occurred to me as probably just what I wanted. Many of you have been brought up in the country, and remember how your mother used to rub your nose and throat when you had a cold with goose grease, in the belief that "it would loosen up the phlegm."

I have found it better than I had hoped for. If you will add a drachm or more of the crystals of iodine to the ounce of goose grease you will have a most effective remedy for ringworm.

At the Vanderbilt Clinic, New York City, where we have many cases of ringworm, this preparation has been used extensively for two or three years, almost exclusively after the first few months, when it was found to be more efficacious than other remedies. It is to be applied twice a day until it produces reaction, as shown by a little swelling of the patch. Then once a day will be sufficient. In two or three weeks the hair falls out of the patch, and it becomes bald, like a patch of alopecia areata. After a time, the hair grows again, and the patch is well. The first applications are apt to be a little painful for a few moments, but after that even little children do not complain of pain. No epilation is necessary.

When used on the bearded portions of the face, the applications are more painful than when the scalp is the part treated.

If much reaction with swelling is caused, the use of the remedy can be suspended for a few days, and a salicylated oil of three per cent. strength can be used. As soon as the reaction subsides, the remedy should be used again. The result in this form of ring-worm is remarkable. A few days ago I asked Dr. Dade, who has charge of one of the classes for men at the Vanderbilt Clinic, how long it took to cure barber's itch with the preparation. He said just three weeks, as he had noted in a number of cases. This coincides with the results I have had in private practice.

Just one word of caution. Be sure that you obtain the genuine article. I am told by those who should know that the goose grease dispensed by many druggists has never seen a goose, but is manufactured of several fats which, like goose grease, melt at a low temperature. There are some good samples on the market. The finest variety is expensive, as it is made from the fat of uncooked geese.—*Medical Record*.

AUSCULTATION OF THE PULMONIC APOICES IN YOUNG INFANTS.

The presence of a certain acoustic anomaly in the apex of the infantile lung has been considered by the majority of clinicians an indubitable symptom of incipient phthisis, writes Alfredo Villa (*Revista Critica di Clinica Medica*, Nov. 9, 1901). Repeated observations prove that this phenomenon has not always the significance which is generally attributed to it. It has been found that crepitant rales, with harsh breathing, are frequently heard at the apices of infants' lungs if auscultation is practised after a prolonged recumbent position, with the head low. These rales may be considered physiological, and are indications of atelectasis due to imperfect expansion. They disappear when the respiratory function is fully established.—*Medical News*.

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