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Original Communications.

Operation for Extroversion of the Bladder and Epispadias. By GEORGE WILKINS, M.D., M.R.C.S. Eng., Professor of Pathology and Lecturer on Practical Physiology at the University of Bishop's College, Attending Physician to Montreal Dispensary, and to the out-patient department of the Montreal General Hospital. (with illustrations)

(Read before the Medico-Chirurgical Society of Montreal.)

MR. PRESIDENT AND GENTLEMEN:—

The case that I am about to bring under your notice this evening is that of *successful* plastic operations for relief of extroversion of bladder, and epispadias.

The patient, a lad of 16 years of age, first came under my care about August, 1873. On examination a large vascular and extremely florid tumour presented itself at the lower portion of the abdomen. Its centre protruded about three quarters of an inch beyond the plane of the abdomen, and was covered with bright red granular patches, bleeding on the slightest touch, and highly sensitive.

At its lower portion were visible the orifices of the ureters, through which, at intervals of a few seconds, drops of urine could be seen bubbling.

This large tumour was the posterior wall of the bladder pushed forward by the weight of the intestines, the anterior wall and normally anterior parts being absent. At the junction of the superior margin of bladder and integument were to be seen the only traces of umbilicus.

Beneath the bladder was a stumpy and imperfect penis about $1\frac{1}{2}$ inch in length; the corpora cavernosa and integument being deficient above, there was no urethra, merely a groove or gutter.

The glans penis also was grooved, and beneath it was a very large prepuce with a well-defined frænum. On the floor of the penis were visible the orifices of the prostatic and seminal ducts. The penis was erect, and almost in contact with the bladder.

The scrotum was extremely well developed and contained testicles. Its front portion was covered with salts of the urine, and presented an eczematous condition, due to the irritation of the urine which was constantly dribbling away at each side of the root of the penis, over the scrotum when standing or walking, and between the scrotum and thigh, or over the groin, when sitting or lying. The anal aperture was not placed between nates; it was an

inch or more anterior to usual position, and the finger introduced, passed upward and forwards in the median line.

His hips and sides, quite up to the arm-pit, were covered with cicatrices of small patches of ulceration caused by his lying in urine while in bed at night.

From the description I have just given of his case when he first came under my care, you can easily understand that every moment of his life urine had been dribbling away, and every night he lay in bed clothes, which by morning were saturated with it.

His parents had endeavoured to ameliorate matters by procuring a suitable urinal; they had two different kinds made in this city, which were of no use; they then took him to New York for the purpose of getting a mechanician there to make one. He was but little more successful. Shortly after his visit to New York, patient came under my notice, and readily consented to any operation that afforded hope of relief.

I decided to operate as recommended by Prof. Wood, of London.

Drs. Gardner, Kennedy, and other of my confrères kindly rendered me valuable assistance.

An incision was commenced at the centre of one side of bladder and carried upwards in a straight line, a distance of about five or six inches; the incision was then continued at right angles to the first (the corner of the angle being rounded) a distance little greater than the breadth of the bladder, then down to opposite side of bladder, about same level with commencement of incision. The flap embraced by this long incision was dissected up to within about quarter or half an inch above superior edge of bladder.

A second incision was carried from the first ascending one, about an inch below its superior margin, outwards a distance of about four inches, then downwards to a point a little below and internal to anterior superior spinous process of ilium, the base of the flap being directed downwards towards thigh and scrotum. A corresponding incision was made in opposite side; each flap was then dissected up to its base. The first or umbilical flap was folded upon itself and placed with its external surface in contact with the mucous membrane of bladder; its previous superior margin reaching a little below the inferior border of the bladder and covering for the time being the penis.

The two side flaps were twisted and placed over the umbilical one, their raw surfaces being laid upon

the raw surface of that flap, and their former superior edges meeting in the median line. Through these edges, two harelip needles were passed, each needle taking up, but not perforating umbilical flap. Two sutures were also inserted into edges of same flap.

The large wound left by removing the integument I covered as much as possible by drawing together the angles of the spaces by means of harelip needles and sutures. The opening still left was dressed with carbolized oil. Patient was put to bed in a sitting posture.

For the first three or four days he experienced a great deal of annoyance from acrid urine which collected beneath his nates, notwithstanding he was carefully lifted out of bed twice a day, and every soiled article removed.

This, however, was remedied by a suggestion of mine which added much to my patient's comfort:—That was to place patient in a hammock chair and to have the part upon which nates rested covered with oil cloth, and directly beneath, an opening through both oil cloth and canvas of chair, and below that again to have a receptacle for urine; a folded cloth placed between nates and oil cloth. This worked admirably; injections, which were frequently necessary to wash out mucous collected under flaps, could be used with but little disturbance to patient; all passed through this aperture. Patient slept more comfortably he said than he ever remembered to have slept before. His feet I should add rested on pillows on a box.

With the exception of a slight attack of erysipelatous inflammation at one of the edges of the wound, patient did extremely well, so that in about six weeks after the operation, the large gaping wound left by removal of integument, which, of course, was last to heal, was almost closed up, leaving a long and narrow cicatrix as shown in last photograph.

Contraction caused by cicatrization, however, was greater than I had anticipated, and in consequence a small portion of lower surface of bladder was still left exposed to view. The large thick flap above prevented clothes from touching it so that no inconvenience resulted.

The greatest annoyance to patient previous to operation was the rubbing of his clothes against the very sensitive mucous membrane of bladder, in walking, more especially in going up and down stairs. His suffering from this cause was very much relieved by the operation. He could now walk with comparative ease. On account of this fact, and his sleeping so much better in the chair than in bed, he was so

satisfied with his improved condition that it was difficult to get him to consent to another operation that for restoring the penis. He appeared to dread the ether; it caused such unpleasant sensations for hours after consciousness was restored. However in February last he consented, and with the same valuable assistance as in former operation I proceeded as follows: An incision was commenced at the side of that portion of bladder left uncovered by former operation, about an inch external to margin, and carried downwards and around the angle between penis and scrotum to point on opposite side of bladder corresponding to commencement of incision. A second incision was begun about two inches directly beneath the commencement of the first one, and carried down the outer margin of scrotum, then along its lower margin and up outer margin of the other side of scrotum to a point corresponding to commencement of incision. Between these two incisions was embraced the whole of the integument of the scrotum as seen from in front. This was dissected up, and the flap left exposed to the air for a few minutes to check bleeding.

An incision was also made along the sides of penis, commencing where first incision passed downwards, and carried as far as the glans. The integument at each side of the bladder was then dissected up, and the two sides folded on themselves and approximated as much as possible in front of the bladder by means of silk sutures. The integument above the incisions at each side of the penis was also dissected up to the extent of about $\frac{1}{2}$ an inch so as to afford a sort of groove into which edges of flap about to form roof of urethra was to be placed. The surface of lower edge of flap formed by first operation was also laid bare.

All bleeding having ceased, the integument covering scrotum, which had just been separated from its connection there, still, however, retaining communication at each side, with integument covering groin, was lifted over penis, and placed somewhat like a saddle upon it and lower portion of bladder. Its upper border was then connected by sutures with lower border of old flap, its outer edge was fitted into groove made at each side of penis and held there by sutures, whilst its lower end was free, projecting slightly beyond end of glans penis. Thus what remained exposed of bladder after former operation was completely covered, and the gutter of urethra was converted into a covered channel.

The testicles were covered by drawing in front of them the edges of integument left on posterior surface and sides of scrotum.

A piece of rubber tubing was placed in urethra to allow of free exit of urine.

In this operation thirty-five sutures were used.

Patient did almost as well after this operation as after first. The progress of repair was, however, slightly delayed. A small portion of flap on left side of penis sloughed, but in no way interfered with ultimate success: for the first two or three weeks a fistulous opening existed about the centre of the line of union of the old and new flaps in front of bladder, but this under appropriate treatment soon closed up.

Ever after this last operation all urine passed through his newly made urethra. For about two or three months, patient complained of much pain; he was not as comfortable as after first operation. This uneasiness was due to my omitting to take the precautionary measure recommended by Wood, that of previously destroying all the hair follicles by means of nitric acid. The small portion of integument reflected over the bladder from the sides had several hairs, which, of course, were shaved off before operating, but subsequently grew, and each hair thus afforded a nucleus around which phosphates were deposited, and accordingly grated on the sensitive mucous membrane, causing much pain, and at times bleeding. This condition, however, was greatly relieved by nitric acid lotion, with which he injected bladder twice a day.

As the hairs grew they made their appearance at the orifice of the urethra, and with a forceps the patient was able to pluck them out, and in this way he gradually became more and more free from his troublesome symptoms. As the hairs are pulled out, the urine will eventually destroy all the follicles.

About three months ago my patient passed from under my care, his family having removed to New York. By that time he had gained flesh considerably, and expressed himself as being comfortable; he could walk much easier than he did before I first operated on him. He still occasionally suffered from collection of phosphates, and no doubt will do so yet a little, as it will take some time before the urine will thoroughly destroy all the hair follicles. When leaving I instructed him to have a gutta percha shield moulded to shape of penis, and to this to have attached a urinal.

As far as I can gather, the total number of recorded cases in which operation for relief of this miserable condition has been attempted amounts to forty-one of which number thirty-two have been successful in affording some relief. Prof. Wood of King's College has operated eighteen times.

The progress of Materia Medica. By A. H. KOLLMYER, M.A., M.D. Professor of Materia Medica and Therapeutics, in the University of Bishop's College, Lecturer on Materia Medica and on Botany, in the Montreal College of Pharmacy.

Jaborandi is the name of a new and evidently a very valuable drug, which has lately been introduced into Paris by a Dr. Continho, from Pernambuco, where it has long been regarded as a very effective diaphoretic and sialagogue.

The plant which furnishes this remedy is said to be a shrub, a native of Brazil, but its true botanical name appears to be a *questio vexata*. Professor Bailon, a botanist of high repute, after examining the leaves, considers it to be the *Pilocarpus pennatifolius*, belonging to the sexual system *pentandria monogynia*, and to the natural family *Rutaceae*; this, however, appears to be doubtful, since Mr. Martindale procured some of the leaves from this plant from the Royal Gardens at Kew, and administered them in the usual form and dose, without producing any such effects as have been found to follow after the administration of those which had been brought from Pernambuco. Yet there is a possibility that the plant cultivated in England may not possess the same medicinal properties as when it has been grown in warmer and more congenial climates. We may expect shortly, however, a detailed botanical description drawn up by Mr. Holmes, curator of the museum of the Pharmaceutical Society, who has received specimens of the genuine article, which description will be published hereafter.

The part of the plant used as a medicine is the leaf. These leaves are about nine inches long, and consist of from three to five pairs of opposite leaflets. The texture of the leaf is leathery, and when held up to the light they are found to be covered with numerous pellucid dots, which are filled up with a granular matter, but not of the nature of a volatile oil; they possess a hay-like odour, but are devoid of taste.

The only chemical analysis that has been made of them was by Mr. Rabuteau; who found them to contain an *odorous principle* (not a volatile oil;) and a *bitter principle*, soluble in water, and in rectified spirit; but he detected no alkaloid.

Dr. Gubler of Paris and Mr. Rabuteau both confirm the good report given concerning it by Dr. Continho, and regard it as an invaluable diaphoretic and sialagogue, and entitled to one of the most prominent places in our *Materia Medica*. More recently Sydney Ringer of the University Hospital of London has experimented very extensively with it, and has

found it to possess other properties, which have not as yet been mentioned: of these experiments I propose to give a short synopsis.

The dose is from sixty to ninety grains given in the form of an infusion made with boiling water; the whole to be taken at one draught, and the patient is then to be covered up warmly in bed. Continho recommended that the suspended leaves were to be taken along with the infusion, but Ringer found the strained infusion, a tincture, and an extract, equally efficacious. To children thirty and even sixty grains were given, by the latter, most frequently without producing any effect; they appear to be able to bear as large a dose as an adult, without developing the diaphoresis and ptialism, for though occasionally these did occur, yet such instances were exceptional.

In ten minutes after the draught, the face, neck, and ears become flushed, and profuse perspiration soon follows, saturating the bed clothes, and saliva, on some occasions amounting to twenty, twenty-two, and even to twenty-seven ounces, streams from the mouth; this condition lasts from two to five hours, and then these effects simultaneously decline. The secretions from other mucous membranes are also said, by different experimenters, to be increased, such as that from the nasal and lachrymal apparatus, as well as from the bronchial and the gastro-intestinal. Gubler asserts that diarrhoea often ensued. Ringer, however, states that he has never observed this result though he had administered it to several lads of from eight to twelve years of age, to seventeen children between three and ten years, and to thirty-eight adults.

During the diaphoresis the temperature fell about one degree, this fall took place about an hour and a half after the dose, and the diminution of heat sometimes continued for the remainder of the day. The pulse was quickened for about four hours, after which it returned to its previous condition. In one case where the pulse was intermittent it became regular while under the influence of jaborandi; ordinarily the pulse was augmented twelve to forty beats per minute. Nausea and vomiting sometimes occurred two or three hours after the potion; occasionally the vomiting was repeated three times, and often sleep followed. The flushing of the face was succeeded by pallor, and some prostration. Flushing of the face always preceded sweating, where that was wanting no diaphoresis resulted. It deranges vision, and contracts the pupil; applied topically to the eye, it does the same. Super-pubic pain was also occasionally complained of, along with a strong desire to void the urine,

which symptoms were immediately relieved on micturation. It did not increase the quantity of urine—and in one case it proved to be a lactagogue. Some of those experimented on complained of hot and cold sensation on the day following, and one of a throbbing within the head. The effects of the medicine were found not to be diminished by repeated use. In some respects it resembles somewhat belladonna in action, but in most of its physiological effects it is directly antagonistic to that remedy, thus:—

Belladonna.	Jaborandi.
1. Flushes the face.	1. First, followed by pallor
2. Quickens the pulse.	2. does the same
3. Affects the bladder.	3. " "
4. Affects children less than adults.	4. " "

They differ, however, in the following respects :

1. Checks secretion from the skin, salivary glands and mucous membranes.	1. Increases them;
2. Dilates the pupil.	2. Contracts it.
3. Contracts the arterioles.	3. Dilates them.
4. Is lactifuge.	4. Is lactagogue.
5. Excites delirium.	5. Produces sleep.

Ringer observing this antagonism injected the 1-100th part of a grain of atropine hypodermically into each of three men, under the full effects of jaborandi, and in ten to twelve minutes the sweating and salivation ceased. And singularly enough while he was experimenting on this point, a lad was admitted into the hospital who had been poisoned with one grain of atropine; five hours after he had imbibed the poison, thirty grains of jaborandi were administered to him, in fifteen minutes his mouth had become more moist, and in an hour he was sweating freely.

Sphygmographic tracings indicated very notable diminution of vascular tension during sweating.

The natural inference to be drawn from these reports concerning jaborandi is, that it is destined to prove a very valuable addition to our *Materia Medica*, inasmuch as it will supply a want that is often experienced in the treatment of many cases of dropsy, and in renal affections, especially those depending on congestion, or on inflammation of the kidneys; whilst in pneumonia, bronchitis, erysipelas, and in the exanthemata, small-pox, measles and scarlet fever, its usefulness must be apparent to every scientific observer. Without entering, however, more fully into its therapeutical application, I might add, in conclusion, that arrangements have been

made by several of our enterprising druggists to obtain a supply as soon as that which has been ordered from Brazil arrives in the British market; when all who feel so disposed will have an opportunity of testing its medicinal virtues and powers for themselves.

Progress of Medical Science.

THE THERAPEUTICS OF FUNCTIONAL HEADACHE.

BY ALLAN McLANE HAMILTON, M.D.

From the *Philadelphia Medical Times*, Feb. 6th, 1875.

All remedies for the alleviation of the several varieties of this condition may be included under the following head :

I. INTERNAL.	{	Cerebral anæmiants. " stimulants. Those diminishing reflex irritations. " " remote local congestion.
		Cardiac sedatives. Alteratives. { Malarial. { Syphilitic. { Gouty. { Rheumatic.
II. LOCAL.	{	Peripheral irritants. " anæsthesiants. " revulsives.
III. GALVANISM.		

The headaches dependent upon anæmia of the brain result usually from nervous exhaustion. These are the headaches of brain-workers, or may also follow unusual physical fatigue. The distressing persistency of the headache of nervous prostration is the characteristic feature. It is the most protean of all forms, as it may be a close counterfeit of neuralgia, or, on the other hand, may be dull and sub-acute. These patients are usually anæmic and much reduced. The headaches are associated with vertigo, and oftentimes nausea. There is usually vomiting, and sometimes syncope. The mental powers are exhausted, and the patient who suffers in this way usually awakes unrefreshed by sleep, with dull, heavy pains and a sense of fatigue. There is little disposition to use the mind; the pulse is small and feeble, and there is sometimes a tendency to passive cerebral congestion. The skin is cool during the attack, and the surface may even be moist.

Many of my patients who suffer in this way are women, and the headache is the most distressing when the patients awaken. The use of a cup of tea or coffee is excellent at this time, and I have lately found that cocoa given in the form of a fluid extract is of very great benefit. Messrs. Hazard and Caswell have made for me a fluid extract which is quite concentrated. A drachm or two of this is the dose. The following prescription is a favorite of mine for these headaches:

℞ Strichniæ sulph., gr. i;
 Acidi phosph. dil.,
 Tr. ferri chlor., aa ʒ vi;
 Aquæ camphoræ, ad ʒ iv;—M.

Sig.—A teaspoonful after eating.

The use of diffusible stimulants is in order. We may give the patient the aromatic spirits of ammonia and sherry wine several times a day with good results. Muriate of ammonia is an invaluable remedy in these headaches, particularly in hemicrania; it should be given in very large doses—from ten grains to thirty—every hour until relief is obtained.

A form of headache, spoken of as *hyperæsthetic* by Hanfield Jones, demands opposite treatment, for the administration of stimulants aggravates it greatly. These are the cases where there are redness of the face, tense carotids, injected conjunctivæ, and heat of skin, the patient is very restless, and the mental faculties are confused. These patients have cold hands and feet during the paroxysms, as a rule. There is imperfect nervous stimulation of the heart, and the cerebral vaso-motors are subject to paresis. These patients find it difficult to sleep; there is tossing at night, and the mind is possessed by a myriad of thoughts that chase each other through the brain. The first order of remedies in my table are of value here, and the bromides are the best of them. We may give this prescription and hope for good results, sometimes very immediate ones:

℞ Sodii bromidi, ʒ i;
 Fid. ext. ergotæ, ʒ iss;
 Aquæ camphoræ, ad ʒ iv;—M.

Sig.—A teaspoonful every three hours, or two teaspoonfuls at night.

I believe the sodic salt to be the most efficacious of all, and the most reliable. Bromide of calcium is next in order, I am convinced, after having given it an extended trial.

In these headaches, cardiac sedatives are of incalculable benefit. Tincture of aconite and veratrum viride will often produce happy results. The continued use of digitalis, combined with zinc, the latter in the form of the oxide, does much to change the character of the circulation.

For the headaches of inebriety I have used since the year 1871 the monobromate of camphor. The results of my experiments I published in the *New York Medical Journal* of August of that year. I am sorry to see that this excellent remedy has fallen into disuse, for it seems to possess hypnotic properties peculiar to itself.

Bourneville, of Paris, has recently called attention to its physiological effects, and I trust its use will be more extended, it having received favor at the hands of this distinguished gentleman. Local depletion, and in some cases general depletion, are necessary. Leeches and cupping relieve the gorged sinuses at the base of the skull. A very common class of headaches are those dependent upon reflex causes. They may be called the *inhibitory* headaches. They go hand in hand with disturbance of digestion, irregularities in the uterine functions, and with other conditions dependent upon eccentric irritations transmitted to the central nervous axis. These headaches partake of all varieties; we may have the well-known sick headache, the headache of dysmenorrhœa, or that associated with an irritable uterus. Of course, our diagnosis will point out the cause very quickly; but oftentimes there are points of irritation

we may overlook. Hæmorrhoids may often produce headache, associated with great restlessness and fatigue. Its seat is usually in the frontal region, and it comes on very suddenly.

The uterus will account for two-thirds of the headaches among women, and one of my patients suffers with a common form all have met with undoubtedly. Her uterus is retroverted: mechanical pressure is made upon the rectum to such a degree that the walls of that gut are in contact nearly all the time. A headache is the result, which is persistent and very prostrating. She suffers constantly from constipation, and before I saw her was often in such extremities from retained fæces that she would pass an ivory paper cutter up the rectum, and press the the uterus forward. After working in this manner for some time, and using a syringe, she would have and unsatisfactory, ribbon-like, and greatly attenuated stool, and the headache would disappear for several days. These cases are more familiar to the gynaecologist than to the neurologist.

Just as the stomach, when irritated by undigested food, transmits to the brain in gastric epilepsy a morbid irritation, and a convulsion is the consequence, so does it send irritations that are followed by headaches.

We are to meet these conditions therapeutically by special interference and proper remedies.

There is a somewhat rare variety of headache, but an excessively painful one,—I allude to rheumatic headache. The pain is superficial; there is a diffused hyperæsthesia over the scalp, which is very sensitive to touch. The disease may be deeper, and the dura mater be the seat of rheumatic inflammation. This is the rare variety. The external hyperæsthesia is due generally to cold. I have found it amenable in a very few minutes to the faradic current applied by the wire brush. Of course, alterative medicines will be required should there be much constitutional participation.

Headaches are associated with syphilis in nearly every instance. Oftentimes there are deep organic changes, sometimes of the dura mater, or there may exist a tumor. The headache is intense, localized, and not always attended by acceleration of pulse. It is needless to say it is worse at night. Inunctions of mercurial ointment have met my anticipations in many cases. In old cases we naturally resort to specific medicine.

The suboccipital headache of malaria is often uncontrolled by quinine alone. The combination of arsenious acid is of great use, and the addition of a small quantity of belladonna increases still more its effect.

Neuralgia is dependent upon so many causes that it will be difficult to consider its therapeutical indications without going very deeply into the history and etiology of the disease. The peripheral forms, however, deserve notice in a paper devoted to the discussion of functional diseases, and, as these are very commonly met with, particularly the facial form, it might be apropos to speak of a few serviceable remedies. I know of none so good as iron, quinine, and belladonna, or arsenic in some one of its forms.

This prescription is a good one, I think, for it contains three of the agents:

℞ Morph. sulph., gr. vi;
Ext. belladonnæ,
Ext. nucis vomicæ, aa gr. xii;
Ferri et quiniae citrat., ʒ iiss.—M.

Ft. massa et divid. in pil. No. xlviiii, one t. i. d.
Strychnia is of great benefit in the anæmic variety of this disorder.

Peripheral neuralgia is treated most successfully by local applications, and among these come galvanism, chloroform, irritant applications, such as blisters, etc., and the actual cautery. The application of chloroform and of bisulphide of carbon has been recommended by several English writers. One of these substances should be poured upon a piece of cotton, and the same placed in a wide-mouthed bottle. The mouth of the bottle is to be then held against the most painful part of the face for a few minutes. A few drops of nitrate of amyl inhaled have often stopped a severe neuralgia.

The hypodermic syringe is so much used that it would be unnecessary to allude to it. I would only speak of certain solutions that have been tried with different degrees of success.

Morphine stands prominently forward as the best. Combined with atropine it is perhaps more efficacious than when injected alone. In neuralgia, chloroform injected hypodermically has been highly recommended by Roberts Bartholow. I think its greatest fault is the production of abscesses. I have used it several times, but have always had unpleasant consequences of this kind. The irritant nature of this drug forbids its application to the skin even locally. We have all seen the blistering produced by the local application. How much more intense must be its action beneath the skin!

Blistering the skin and afterwards applying morphine to the denuded surface, is effectual in stopping some forms of peripheral neuralgia.

I have lately tried, with the most satisfactory results, the local application of the ether-spray by the atomizer. Freezing of the skin just anteriorly to the ear will cut short a violent attack of facial neuralgia in a few moments.

In certain forms of facial neuralgia, particularly where there are points of irritation, the actual cautery-iron, brushed over these points, will cure the patient.

Perhaps one of our best remedies is electricity. In the form of galvanism we may affect the cervical sympathetic, diminish the cerebral hyperæmia, or by stronger currents increase it. The poles should be held over the nuchæ or lower down, and over the mastoid bone, or upon both temples. In neuralgia the positive pole may be held just back of the ear, and the negative passed over the several branches of the fifth nerve.

The faradic current often relieves many headaches, particularly if they are diffused over the scalp, and if they are aggravated by heat to the head, or by pressure.

The application of cold is one of the best local means we have to modify or stop headache, particu-

larly if it be of the hyperæsthetic variety. Bladders filled with ice, cold douches, and other expedients enable us to successfully combat it.

The organic headaches deserve mention by themselves, so I will not venture upon such a wide field. In all cases of this kind it is a symptom, and while attempting to relieve it, we must not forget that there is usually a cause.

TREATMENT OF DELIRIUM TREMENS.

Dr. Kitchen gives the following treatment, in the *American Journal of Insanity*:—

In the treatment of delirium tremens many points are to be taken into consideration, as the condition of the patient, the length of time the delirium has lasted, and the surroundings of the patient.

Our custom is to place this class of cases in a large room, well ventilated, with about one-thousand cubic feet of space for each patient.

Usually the patient is much fatigued on admission, and is in feeble physical health, and not infrequently there are complications, as bronchitis or pneumonia, and occasionally Bright's disease.

When no complication exists we give a tepid bath. The patient is put to bed, and usually a camisole is required to restrain him.

The usual, and perhaps better, treatment, is at once to place the patient on liberal and nutritious diet, as beef juice, cream, or essence, soups, milk, milk punch, egg-nog, etc.

If he is feeble, the reasons for giving stimulants are plain, though the delirium is caused by the same stimulant. Some recommend pure alcohol to be given instead of brandy, whisky, or even wine.

Of course, in administering stimulants to this class of patients, great and watchful care should always be exercised. The pulse is a safe guide, as stimulants should lower it and give it fulness. To quiet the tremors and restlessness, opium serves a good purpose, administered by hypodermic injection.

The treatment which in all probability is the most effective, is a generous diet, full doses of fluid extract of conium during the day, to control the muscular action, and during the evening hydrate of chloral, with tincture of hyoscyamus, the latter to be repeated until sleep is secured.

ON THE HAND-FEEDING OF INFANTS.

BY EUSTACE SMITH, M.D., LONDON.

There are few subjects of greater interest, or of which it is more important, in a sanitary sense, to possess an accurate knowledge than that which relates to the feeding and nurture of infants. Many mothers are unable to nurse their babies, and there is an increasing dislike to transfer maternal duties to a hireling; consequently, the question how best to provide a fitting diet for a being whose digestive powers are feeble and immature, but whose growth and healthy development are dependent upon a suitable supply of nourishment, is one to which it is

of the utmost importance to furnish a correct answer.

The mortality among children under the age of twelve months is enormous; and of these deaths, a large proportion might be prevented by a wider diffusion of knowledge, of one of the least difficult of subjects. The rules for the efficient nourishment of infants, are plain and simple, and the application of them, although requiring tact and judgment, is yet not a matter which ought to occasion any extraordinary embarrassment.

The great principle at the bottom of all successful feeding—viz., that an infant is nourished in proportion to his power of digesting the food with which he is supplied, and not in proportion to the quantity of nutritive material which he may be induced to swallow—is so obviously true, that an apology might almost seem to be required for stating so self-evident a proposition; but experience shows that this simple truth is one which in practice is constantly lost sight of. That that child thrives best who is most largely fed, and that the more solid the food the greater its nutritive power, are two articles of faith so firmly settled in the minds of many persons, that it is very difficult indeed to persuade them to the contrary. To them wasting in an infant, merely suggests a larger supply of more solid food; every cry means hunger, and must be quieted by an additional meal. To take a common case: A child, weakly perhaps to begin with, is filled with a quantity of solid food which he has no power of digesting. His stomach and bowels revolt against the burden imposed upon them, and endeavor to get rid of the offending matter by vomiting and diarrhoea; a gastro-intestinal catarrh is set up, which still further reduces the strength—every meal causes a return of the sickness; the bowels are filled with fermenting matter, which excites violent griping pains, so that the child rests neither night nor day; after a longer or shorter time, he sinks, worn out by pain and exhaustion, and is then said to have died from "consumption of the bowels."

Cases such as the above are but too common, and must be painfully familiar to every physician who has much experience of the diseases of children. When seen sufficiently early, the treatment of the derangement is simple and the improvement immediate, but it unfortunately often happens, especially among the poorer classes, that application for advice is delayed until the child's strength has been reduced to the lowest point, and all our efforts to remedy the mischief may in such cases prove unavailing.

The disastrous results of ignorant attempts to supply a substitute for human milk, have brought the whole practice of hand-feeding into disrepute; but if a food be judiciously selected, with a correct appreciation of infant wants, and an accurate estimate of infant powers of digestion, there is no reason why a child fed artificially, with judgment, should not thrive as well as one suckled naturally at his mother's breast. The food we select for the diet of an infant should be nutritious in itself, but it should also be given in a form in which the child is capable of digesting it, otherwise we may fill him with

food without in any way contributing to his nutrition, and actually starve the body, while we load the stomach to repletion. No food can be considered suitable to the requirements of the infant, unless it not only possesses heat-giving and fat-producing properties, but also contains material to supply the waste of the nitrogenous tissues; therefore, a merely starchy substance, such as arrowroot, which enters so largely into the diet of children, especially among the poor, is a very undesirable food for infants, unless given in very small quantities, and mixed largely with milk.

The most perfect food for children, the only one, indeed, which can be trusted to supply in itself all the necessary elements of nutrition, in the most digestible form, is milk. In it are contained nitrogenous matter in the curd, fat in the cream, besides sugar, and the salts which are so essential to perfect nutrition. The milk of different animals varies to a certain extent in the proportion of the several constituents, some containing more curd, others more cream and sugar; but the milk of the cow, which is always readily obtainable, is the one to which recourse is usually had, and when properly prepared, this is perfectly efficient for the purpose required. Cow's milk contains a larger proportion of curd and cream, but less sugar, than is found in human milk, and these differences can be immediately remedied by dilution with water, and the addition of cane or milk sugar in sufficient quantity to supply the necessary sweetness. But there is another and more important difference between the two fluids which must not be lost sight of. If we take two children, the one fed on cow's milk and water, the other nursed at his mother's breast, and produce vomiting directly after a meal by friction over the abdomen, we notice a remarkable difference in the matters ejected. In the first case, we see the curd of the milk coagulated into a firm, dense lump; while in the second, the curd appears in the form of minute flocculent loosely connected granules. The demands made upon the digestive powers in these two cases is very different, and the experiment explains the difficulty often experienced by infants in digesting cow's milk, however diluted it may be for the addition of water alone will not hinder the firm clotting of the curd. In order to make such milk perfectly satisfactory as a food for new-born infants, further preparation is required, and there are two ways in which the difficulty may be overcome.

The first method consists in adding an alkali, as lime-water, to the milk. To be of any service, however, the quantity added must be considerable, and one or two teaspoonfuls—the addition usually made to a bottleful of milk and water—is quite insufficient to effect the object desired. Lime-water contains only half a grain of lime to the fluid ounce; of this solution, so small a quantity as two teaspoonfuls would be scarcely sufficient even to neutralize the natural acidity of the milk. But it is necessary to do much more than this. Lime-water, no doubt, acts by partially neutralizing the gastric juice—the rennet naturally existing in the child's stomach—so

that clotting of the curd is in great part prevented, and the milk passes little changed out of the stomach to be fully digested by the intestinal secretions in the bowels. To attain this object, at least a third part of the mixture should consist of lime-water. For a new-born infant, two tablespoonfuls of milk may be diluted with an equal quantity of plain filtered water, and then be alkalized by two tablespoonfuls of lime-water. This mixture, of which only a third part is milk, can be sweetened by the addition of a teaspoonful of milk-sugar. If thought desirable, a teaspoonful of cream may be added. The whole is then put into a perfectly clean feeding bottle, and is heated to a temperature of about 95° Fahr., by steeping the bottle in hot water; when warmed, it is ready for use. The proportion of milk can be gradually increased as the child gets older.

There is another plan by which the caseine of cow's milk may be rendered digestible; it is by adding to the milk a small quantity of some thickening substance, such as barley-water, isinglass, or even one of the ordinary farinaceous foods. The action of all of these is the same, and is an entirely mechanical one. The thickening substance separates the particles of curd, so that they cannot run together into a solid lump, but coagulate separately into a multitude of small masses. By this means the curd is made artificially to resemble the naturally light clot of human milk, and is almost as readily digested by the infant.

Although any thickening matter will have the mechanical effect desired of separating the particles of curd, yet it is not immaterial what substance is chosen. The question of the farinaceous feeding of infants is a very important one, for it is to an excess of this diet that so many of their derangements may often be attributed. Owing to a mistaken notion that such foods are peculiarly light and digestible—a notion so widely prevalent that the phrase "food for infants" has become almost synonymous with farinaceous matter—young babies are often fed as soon as they are born with large quantities of cornflour or arrowroot, mixed sometimes with milk, but often with water alone. Now, starch, of which all the farinæ so largely consist, is digested principally by the saliva, aided by the secretion from the pancreas, which convert the starch into dextrine and grape-sugar previous to absorption. But the amount of saliva formed in the new-born infant is excessively scanty, and it is not until the fourth month that the secretion becomes fully established. Again, according to the experiments of Korowin, of St. Petersburg, the pancreatic juice is almost absent in a child of a month old; even in the second month, its secretion is very limited, and has little action upon starch. It is only at the end of the third month that its action upon starch becomes sufficiently powerful to furnish material for a quantitative estimation of the sugar formed. Therefore, before the age of three months, a farinaceous diet is not to be recommended—is even to be strongly deprecated, unless the starchy substance be given with great caution and in very small quantities. If administered

ed recklessly, as it too often is, the food lies undigested in the bowels, ferments, and sets up a state of acid indigestion, which in so young and feeble a being, may lead to the most disastrous consequences. In fact, the deaths of many children under two or three months old, can often be attributed to no other cause than a purely functional abdominal derangement, excited and maintained by too liberal feeding with farinaceous foods. There is, however, one form of food, which, although farinaceous, is yet well digested even by young infants if given in moderate quantities. This is barley-water. The starch it contains is small in amount, and is held in a state of very fine division. When barley-water is mixed with milk in equal proportions, it insures a fine separation of the curd, and is at the same time a harmless addition to the diet. Isinglass or gelatine, in the proportion of a teaspoonful to the bottleful of milk and water, may also be made use of, and will be found to answer the purpose well.

Farinaceous foods, in general, are, as has been said, injurious to young babies, on account of the deficiency during the first months of life of the secretions necessary for the conversion of the starch into dextrine and grape-sugar—a preliminary process which is indispensable to absorption. If, however, we can make such an addition to the food as will insure the necessary chemical change, farinaceous matter ceases to be injurious. It has been found that by adding to it malt in certain proportions the same change is excited in the starch artificially as is produced naturally by the salivary and pancreatic secretions during the process of digestion. The employment of malt for this purpose was first suggested by Mialhe in a paper read before the French Academy in 1845, and the suggestion was put into practice by Liebig fifteen years later.

"Liebig's Food for Infants" contains wheat flour, malt, and a little carbonate of potash, and has gained a well-deserved celebrity as a food for babies during the first few months of life. The best form with which I am acquainted is that made by Mr. Mellin, under the name of "Mellin's Extract for preparing Liebig's Food for Infants." In this preparation, owing to the careful way in which it is manufactured, the whole of the starch is converted into dextrine and grape-sugar, so that the greater part of the work of digestion is performed before the food reaches the stomach of the child. Mixed with equal parts of milk and water, this food is as perfect a substitute for mother's milk as can be procured, and is readily digested by the youngest infants. It very rarely indeed, happens that it is found to disagree.

In all cases, then, where a child is brought up by hand, milk should enter largely into his diet, and during the first few months of life he should be fed upon it almost entirely. If he can digest plain milk and water, there is no reason for making any other addition than that of a little milk-sugar and cream; but in cases where, as often happens, the heavy curd taxes the gastric powers too severely, the milk may be thickened by an equal proportion of thin barley-water, or by adding to each bottleful of

milk and water a teaspoonful of isinglass or of "Mellin's Extract."

Having fixed upon the kind of food which is suitable to the child, we must next be careful that it is not given in too large quantities, or that the meals are not repeated too frequently. If the stomach be kept constantly overloaded, even with a digestible diet, the effect is almost as injurious as if the child were fed upon a less digestible food in more reasonable quantities. A healthy infant passes the greater part of his time asleep, waking at intervals to take nourishment. These intervals must not be allowed to be too short, and it is a great mistake to accustom the child to take food whenever he cries. From three to four ounces of liquid will be a sufficient quantity during the first six weeks of life; and of this only a half or even a third part should consist of milk, according to the child's powers of digestion. After such a meal the infant should sleep quietly for at least two hours. P fretfulness and irritability in a very young baby almost always indicate indigestion and flatulence; and if a child cries and whines uneasily, twisting about his body and jerking his limbs, a fresh meal given instantly, although it may quiet him for the moment, will, after a short time, only increase his discomfort. During the first six weeks or two months, two hours will be a sufficient interval between the meals; afterwards this interval can be lengthened, and at the same time a larger quantity may be given at each time of feeding. No more food should be prepared at once than is required for the particular meal. The position of the child as he takes food should be half reclining, as when he is applied to his mother's breast, and the food should be given from a feeding-bottle. When the contents of the bottle are exhausted, the child should not be allowed to continue sucking at an empty vessel, as by this means air is swallowed, which might afterwards be a source of great discomfort. The feeding apparatus must be kept perfectly clean. The bottle should be washed out after each meal in water containing a little soda in solution, and must then lie in cold water until again wanted. It is desirable to have two bottles which can be used alternately.

At the age of six months farinaceous food may be given in small quantities with safety, if it be desired to do so; and in some cases the addition of a moderate proportion of wheaten flour to the diet is found to be attended with advantage. The best form in which this can be given is the preparation of wheat known as "Chapman's entire wheaten flour." This is superior for the purpose to the ordinary flour, as it contains the inner husk of the wheat finely ground, and is therefore rich in phosphates and in a peculiar body called cerealin, which has the diastatic property of changing starchy matters into dextrine. This flour should be slowly baked in an oven until it crumbles into a light grayish powder. At first no more than one teaspoonful should be given once or twice a day, rubbed up (not boiled) with milk. If there be much constipation, fine oatmeal may be used instead of the baked flour.

After the eighth month a little thin mutton or chicken broth or veal tea may be given, carefully freed from all grease. After twelve months the child may begin to take light puddings, well-mashed potatoes with gravy, or the lightly boiled yolk of an egg; but no meat should be allowed until the child be at least sixteen months old. Every new article of food should be given cautiously, and in small quantities at first, and any sign of indigestion should be noted and a return be made at once to a simpler method of feeding.

During all this time the child should be kept scrupulously clean, and his nursery should be well ventilated and not be kept too hot. He should be washed twice a day from head to foot, once with soap. The air of his bed-room should be kept sweet and pure during the day, and at night, if the weather does not allow of an open window, a lamp placed in the fender will insure of a sufficient exchange of air. The child should pass as much of his time as possible out of doors, and while every care is taken to guard his sensitive body against sudden changes of temperature, he must not be covered up with too heavy clothing and shut off from every breath of air for fear of his catching cold. A child ought to lie cool at night, and the furniture of his cot, although sufficiently thick to insure necessary warmth, should not be cumbersome, so as to be a burden. If the above directions are carefully carried out—and the mother should herself see that they are attended to—few cases will be found to present any difficulty in their management. Exceptional cases, however, are sometimes met with where special sources of embarrassment may arise. These I propose to consider in a future paper.—*Sanitary Record*.—*The Sanitarian*, Jan., 1875.

THE TREATMENT OF ABORTION

By ALEX. J. C. SKENE, M.D.

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Abortion is an occurrence to which every pregnant woman is liable. Though generally the result of accident or conditions over which the woman has little control, it is frequently brought about intentionally by those who wish to avoid having children. The practitioner is constantly being brought into contact with such cases, and as they may be looked upon to some extent as emergencies, I am led to believe that any contribution, however small, to the management of abortion, may be of some interest.

What follows will have reference to premature expulsion of the ovum at any time from the first to the end of the fourth month. The discussion of causes will be purposely omitted from this paper. It would appear on first thought, that a thorough knowledge of the causes of abortion would be necessary, in order properly to comprehend the treatment; but such knowledge applies more directly to the prevention or the removal of the causes of this accident. So far as the simple management of the expulsion of the ovum is concerned, the subject can

be fully understood without any special reference to etiology.

It should be clearly understood that abortion often takes place without there being any necessity for interference on the part of the physician. Although an unnatural occurrence, the vital powers are sufficient in some cases to accomplish the work without the aid of medicine or surgery. On the other hand, there are several ways in which danger may arise, which calls for the most active treatment. Indeed, in the great majority of cases the physician is called upon to either guard the patient from danger or relieve suffering.

The point to settle, when a case of this kind comes up for consideration, is the diagnosis. Firstly, is the patient threatened with abortion? Secondly, can it be arrested, or must it go on? To answer the first, it is necessary to make sure that the patient is pregnant, a diagnosis which is not easily made with certainty. All men of experience will acknowledge the difficulty of diagnosing pregnancy in the earlier months, and on this account I hope to be pardoned for deviating from the main topic, in alluding to the signs and symptoms of pregnancy, which are supposed to be perfectly familiar with every one. I refer to this matter for the purpose of calling attention to a classification which I believe has the advantage of being more easily remembered than that given in text books.

First. Symptoms manifested by the general system—**PRESUMPTIVE**.

Second. Signs and symptoms manifested by the reproductive organs—**PROBABLE**.

Third. Signs manifested by the foetus in utero—**POSITIVE**.

Under the first head may be classed all the constitutional symptoms: sympathetic derangement of the digestive and nervous systems; morning sickness, or nausea and vomiting, eructations, heart-burn; craving for particular articles of food and loathing others; constipation, salivation, and various neuralgic pains. Either or all of these may be present or absent. At the same time that the patient may have all these symptoms, the general health appears to be good; that is, nutrition and circulation are normal.

Under the second head are classed all the changes occurring in the pelvic organs and mammary glands: suspension of the catamenia, increase in size of the uterus, as observed by prolapsus at first and then ascent; fluctuation or elasticity of the uterus; change in colour of the mucous membrane of the vagina; changes in the mammary glands.

The third division comprises ballotment, the placental souffle, foetal heart, and foetal motion.

With the best skill and the greatest care, the diagnosis of pregnancy is not always certain; and it is especially difficult when an examination of the pelvic organs cannot be made.

When a patient presents the usual symptoms of abortion—hemorrhage and pain—we are told in books to make an examination of the uterus; but I am sure to make this an invariable rule is unwise practice. If the symptoms are not severe, active

treatment is not called for, and an examination under these circumstances would be likely to do harm. Better to wait either until the symptoms pass away or become more marked.

Before making any examination of the uterus, it is better to decide, as nearly as possible, the next important point; can the abortion be arrested, or must it go on? It is impossible to be perfectly sure on this point in all cases. Where there have been free hemorrhage and severe pain for any length of time, the probabilities are that the abortion cannot be averted; while if there is only slight bleeding, and very little or no pain, then the prospects are that the trouble can be arrested.

Fortunately, while we cannot be positive in diagnosis, we can be certain of the proper course of treatment to pursue. So long as there is any hope of arresting it we should direct our efforts towards that end, knowing that if we fail, the treatment employed will not interfere with the favorable termination of the abortion.

When the history obtained indicates pregnancy, and the patient has the symptoms of abortion, she ought to be put into bed, and directed to rest in the recumbent position, but not constantly on the back, as usually directed. I am satisfied that lying on the back for any great length of time tends to excite uterine action. The influence of position on the reproductive organs is well illustrated in spermatorrhœa, the emissions occurring almost always when the subject is lying on his back. The patient should be directed to change from the back to either side, whenever she feels inclined to do so. Lying on the side, with the lower limbs drawn upwards and forwards, throws the pelvis into a semiprone position, and removes the pressure from the pelvic organs better than any way, except resting on the knees and chest.

When there is pain and much nervous excitement, an anodyne should be given. Opium and bromide of potassium answer well in most cases. If there is no pain the opium should be omitted. A suppository containing a medium dose of opium and belladonna is sometimes very satisfactory. A fair trial of this line of treatment for twelve or twenty-four hours will suffice to show whether the abortion can be prevented or not. If the symptoms continue, and especially if they increase in severity, then hope of arresting it must be abandoned.

To relieve or modify the pain, and keep the hemorrhage in check, are the indications in the first stage of abortion, or during dilation of the cervix. Opium and bromide of potassium, or the bromide and chloral hydrate, should be employed to keep the nervous system quiet during the day, and to give sleep, if possible, during the night. In some cases the pain is so severe that sleep cannot be obtained short of profoundly narcotizing the patient; then the anodyne should be given in such doses as will quiet irritability and enable the patient to bear pain without fretting.

Knowing that the ovum cannot be expelled without some pain, we naturally inquire if such free use of anodynes will not retard the process of abortion.

My own observations have satisfied me that the first stage of abortion, *i.e.*, dilatation of the cervix uteri, is not retarded by the use of opium or chloral hydrate. On the contrary, I am inclined to think that opium, judiciously given, rather facilitates dilatation than retards it.

The management of hemorrhage is the next indication to be fulfilled. Although occasionally this does not require any special attention, in many cases it needs the most prompt and masterly treatment. The tampon has been universally employed for the control of bleeding in abortion; in fact it has been almost exclusively used. There have been many substances recommended, and a little diversity in the mode of application, but the principle is always the same. Rags, sponges, cotton wadding, and the rubber bag or colpeurynter, as it is called, are the ordinary materials in use.

Practically, I have found the tampon objectionable in many respects. It controls the hemorrhage partially, but very seldom completely. It is troublesome to use, both to physician and patient. It must be renewed frequently, because if left in situ for any length of time decomposition occurs to an offensive and dangerous extent. I believe that septicæmia, one of the dangers in abortion, is liable to be induced indirectly by the use of the tampon. These objections cannot all be raised against the colpeurynter, as it is easy to introduce and remove, and does not excite decomposition; but what is equally unfortunate, it does not answer the purpose. The rubber bag in the vagina will not control hemorrhage unless it be distended so as to make strong pressure on the vaginal walls and pelvic organs generally. This gives so much distress by exciting pelvic tenesmus that it cannot be borne.

My experience with the vaginal tampon being unfavorable, I have abandoned it altogether. I now trust to the natural mode of controlling or retarding uterine hemorrhage, that is, the formation of coagula in the vagina. To accomplish this I place a compress on the vulva, securing it by the ordinary T bandage. If this fails to keep the bleeding within the bounds of safety, I then tampon the cervix uteri. This is done either by using a sponge tent, as suggested by Sir J. Simpson, or by crowding an ordinary piece of sponge into the cervix with the uterine dressing forceps; or what is better than either, though not always possessed by the practitioner, the hydrostatic dilators.

The advantages of the cervical tampon over the vaginal are these: the cervical can be introduced and removed through the speculum with the greatest facility, and without much pain to the patient. It more thoroughly controls the hemorrhage, and does not cause vesical and rectal tenesmus. It does not cause decomposition to the same extent. It helps to dilate the cervix, which is desirable; and by damming back the blood into the uterus it separates the attachments of the fetal membranes from the uterine walls. There is but one objection to the cervical tampon, that it slips out of place unless great care is taken. As the os dilates, the dilator gets loose, and will come away. To prevent this

the water in the dilator should be increased from time to time; but this requires the presence of the physician at short intervals, which is not always convenient. To overcome this objection the dilator should be distended as far as possible, and then fastened to a bandage round the body, in the same manner that surgeons tie a catheter fast in the bladder.

In using the dilator, the greatest care should be exercised in introducing it, so as not to rupture the membranes. It is always desirable to have the ovum expelled whole, as when broken its expulsion by the uterus is often very tedious, and sometimes impossible in any reasonable length of time.

It quite frequently happens that when the os is fully or sufficiently dilated the ovum is not expelled. There is a kind of inertia of the uterus, which permits its contents to remain, and this condition is often attended with hemorrhage. Ergot is then indicated. It will sometimes, but not always, excite uterine contractions, and in that way control the bleeding and expel the ovum. It is at this stage of the process, and at no other, that ergot is useful. I am satisfied from observations that much harm is often done by giving ergot before the os uteri is sufficiently dilated. It is often given to control hemorrhage in the early stage, and generally with ill effects. It rarely if ever controls the bleeding under these circumstances, and is almost sure to increase the patient's suffering if it acts at all. Used at the beginning, it is really worse than useless.

Should there be any delay in the expulsion of the ovum after the os is fully dilated, it is best to employ mechanical means to empty the uterus. The text books recommend that the ovum be removed by the finger; and if it cannot be reached by an ordinary digital examination, that the hand should be introduced into the vagina. To those who have practiced this manipulation it is unnecessary to say that it is at all times difficult and sometimes unsuccessful. In abortion in the earlier months of pregnancy one finger is all that can be admitted into the uterus, and this is insufficient to seize and remove the ovum. All that can readily be done is to detach the ovum, break it down, and then trust to its being expelled. When the uterus is larger, as at the end of the fourth month, two or more fingers can be introduced, if the hand is in the vagina; but then the fingers are too short to reach the fundus uteri and scoop out the ovum; and it is seldom that it can be seized even with two or more fingers. And to make this attempt at delivery, it is almost necessary to give chloroform, which adds delay and danger to an operation frequently ending in failure.

After having faithfully tried this standard practice, I have abandoned it for what has proved to be better. When the ovum is retained after dilatation of the os, I remove it through the speculum, by means of forceps and curette. The patient is placed in the semiprone position, and Sims' speculum introduced; the anterior lip of the os is seized with a tenaculum forceps, and the cervix drawn downwards and forwards. An ordinary dressing or bullet forceps is

then carried into the uterus, and the ovum seized and brought away whole or in part. If only a part of the ovum is removed by the forceps, which is frequently the case, then the curette should be introduced, and the contents of the uterus thoroughly and rapidly scooped out. The instrument which answers best for this purpose is the curette of copper wire, without a cutting edge, described in Thomas's work on diseases of women, but it requires to be very much larger. In using this instrument with reasonable care, no injury can be done to the uterus.

The uterus usually contracts promptly, to an extent sufficient to prevent hemorrhage, when its contents have been removed by the curette. If in very rare cases hemorrhage continues even when the uterus is perfectly empty, then ergot is indicated, and should be used without delay. If that fails to produce contraction, the uterus may be tamponed with sponge or cotton. Should the bleeding still persist, cotton saturated with persulphate of iron may be used. Dr. J. Marion Sims' method of using "iron-cotton," as he calls it, as a tampon to arrest uterine hemorrhage is the best. He uses a piece of whalebone, as long as a uterine sound, tapering to a point, and curved near the end. According to the length of tampon required, the extent of the whalebone is smeared with lard, and then wrapped with layers of "iron-cotton" until the tampon is the size required. It is then carried up to the fundus uteri, and held in place, while the whalebone is withdrawn. If the uterine tampon inclines to come away, a pad of cotton placed in the vagina will hold it in place. In ten or twelve hours the tampon may be removed.

The rules of practice may be very briefly recapitulated:

1. Where the symptoms of abortion are slight, and of short duration, efforts should be made to arrest it.
2. During dilatation of the os opium should be given, if there is any call for it, and ergot should be carefully avoided.
3. Hemorrhage should be controlled by tamponing the cervix, the hydrostatic dilator being the best for that purpose.
4. When the os is fully dilated, and the ovum is not promptly expelled, after the use of ergot, it should be removed by the forceps and curette.
5. Post-partum hemorrhage should be arrested by ergot and the intra-uterine tampon.

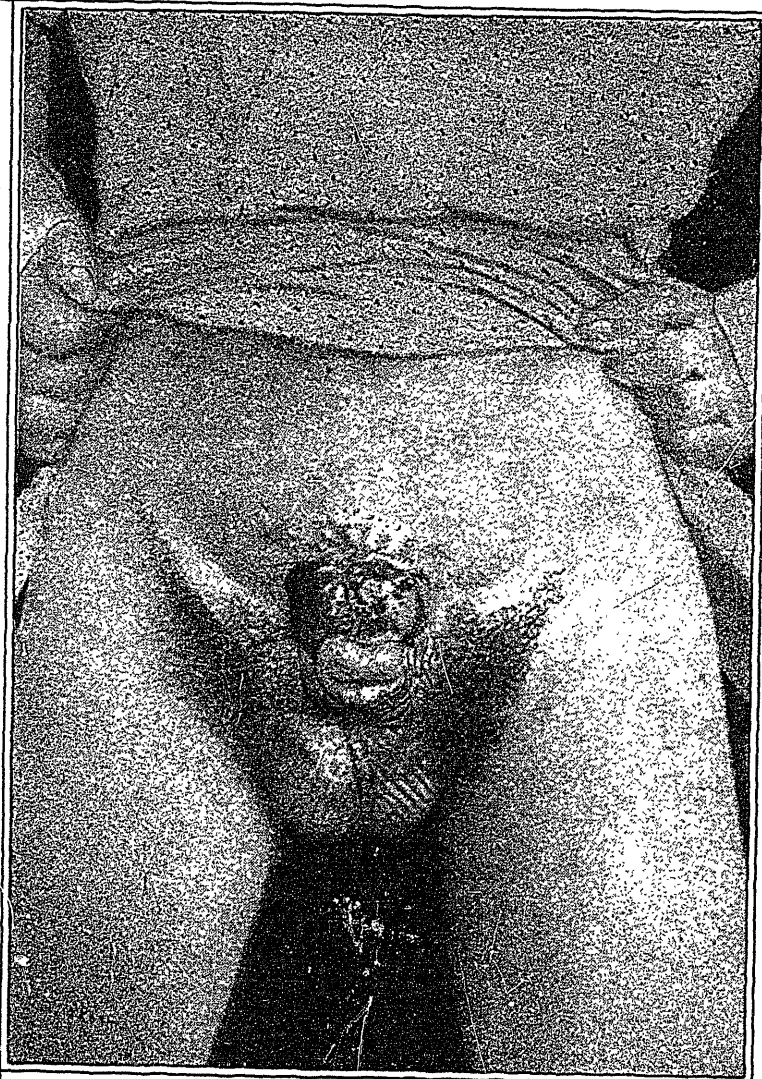
The inflammation of the uterus, peritoneum, or cellular tissue, which may arise, should be treated on general principles.—*N. Y. Med. Record.*

CALMATIVE EXPECTORANT.

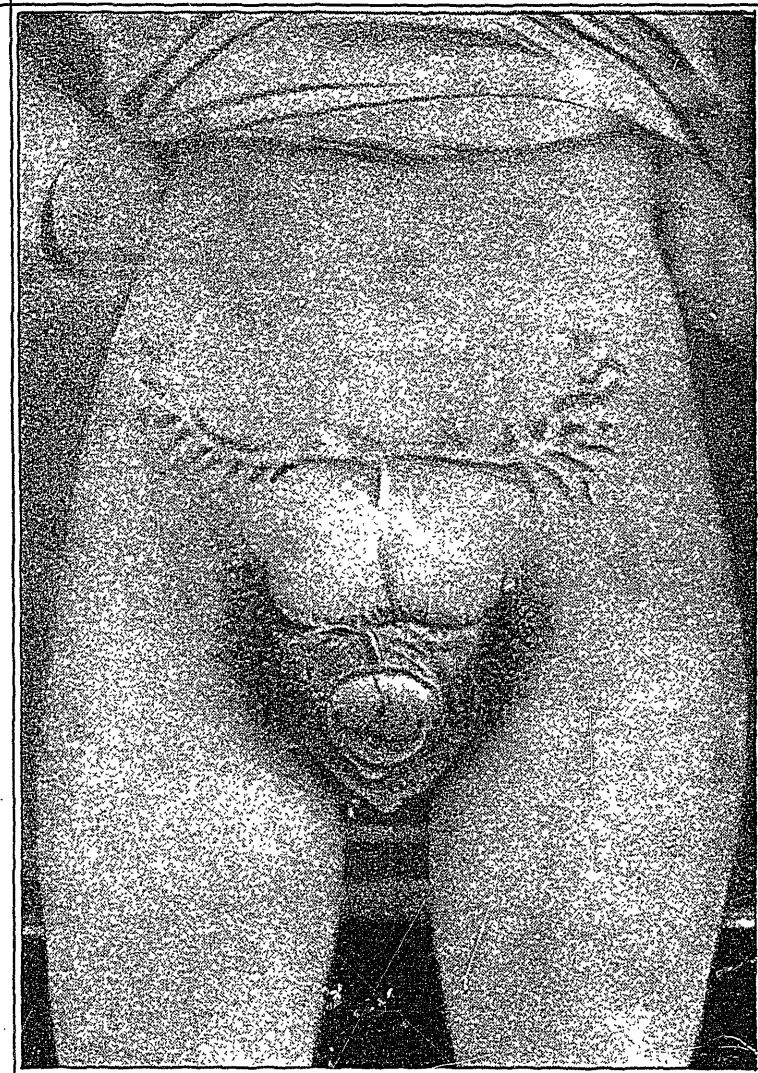
℞ Syr. acaciæ, f̄ss̄ iv;
Antimonii oxysulphuret., gr. vi;
Ext. opii,
Ext. belladonnæ, aa gr. ii.—M.

Sig.—Tablespoonful every two or three hours in acute catarrhal bronchitis with fits of dry cough.

DR. WILKINS' CASE OF EXTROVERSION OF BLADDER AND EPISPADIAS.



From photograph taken two days before first operation.



From photograph taken six months after second and last operation.

THE MANAGEMENT OF DIPHTHERIA.

Dr. T. Pringley, in the *British Medical Journal*, gives a record of an outbreak of this disease. As to its management, he says:—

The local treatment I adopted in every case was the application of tincture of iodine (forty-eight grains to one ounce) to every part of the throat covered with membrane, at least once in twenty-four hours, and the inhalation of iodine vapor mixed with steam, but more especially the latter, if the larynx were invaded. If the membrane were firm in texture, and not too strongly adherent, I always removed it and applied the tincture of iodine to the denuded surface, and with the best results; for, although frequently the membrane would reform, yet it never regained its pristine condition. If the membrane were in specks or shreds, I applied the iodine over them, and in general half-a-dozen applications were all that was required to procure their dismissal, and in several instances two applications were sufficient. This local application of iodine acts, not only as a caustic, but, I believe, confers a modifying influence upon the secreting structure, and further brings into action the power of the absorbents; thus tending to retard the spread of the membrane and to promote the removal of that which is formed. I am aware that, in urging this treatment, I am at issue with many who contend that, this disease being a general one, depending upon certain changes in the blood by the introduction of a specific disease-poison, it is useless to attack the local manifestation of the disease any more than the pustules of small-pox. To those I would call attention to John Hunter's axiom, that two similar diseases cannot coexist in the system at the same time.

The general treatment was supporting and stimulating throughout. A liberal supply of beef-tea, wine and milk was frequently and regularly given, to maintain the system against the natural tendency to depression and exhaustion. In medicine, I rely upon chlorate of potash and tincture of steel, from three to five grains of the former with five to fifteen minims of the latter every four hours, according to age. When tracheal symptoms arise, I at once have recourse to the inhaler, beginning with ten drops, increasing to a drachm of the common tincture of iodine to a pint of boiling water, and letting the patient inhale as frequently as possible. In using this, one precaution is necessary, and that is not to begin with too large a supply of iodine, otherwise it is too irritating, causing the patient to cough, and making him unwilling to use it. I have found ten drops well borne to begin with; and, after a short time, we may gradually increase the quantity to a drachm to the pint without inconvenience. If this do good, which it undoubtedly does, it is evident it cannot be by any caustic action, but entirely through its modifying and absorbing influence upon the diseased tissue. I can refer to three cases in which this treatment was of marked utility. In cases where the fits of dyspnoea are severe and frequent, I have found nothing like an emetic of sulphate of copper, which generally expels a quantity of membrane from the

larynx and trachea, and gives relief for a time, at all events.

In tracheotomy I believe we may place considerable reliance, although my experience is limited to one case, and that unfortunately a fatal one; yet I firmly believe that if it be resorted to soon enough, we may rescue many lives.

ON BACTERIA.

So much having been said lately about bacteria, our readers may be glad to read the following description of them, taken from a lecture by the able physiologist, Dr. J. Burdon Sanderson, published in the *British Medical Journal*.

The first fact that I shall advance with respect to bacteria is, that they are the smallest and least organized of all living beings. As regards size, it is best to judge by comparison with objects with which we are microscopically familiar. The most common rod-like forms are in length about one-third of the width of a blood-corpuscle; *i. e.*, about $\frac{1}{300}$ of an inch, so small that, if we examine a liquid containing them, with the ordinary magnifying powers used for histological observations, we can scarcely be said to see them to any practical purpose. It is necessary to have recourse to the best microscopes and the highest powers, if it be desired to observe them in such a way as to arrive at useful results.

What grounds have we for stating that they are the lowest organisms? One is, that they present only very slight differentiation of parts; but in this sense they are certainly not simpler than many other forms that might be referred to. The chief ground for the statement lies in this, that they are much less *specific* in their characters—much more under the influence of the conditions under which they originate and are developed—than organisms of any other class. Just as in the higher animals, and in man himself, we call those functions lowest which are most completely automatic—*i. e.*, most completely under the guidance of known conditions—so also, as regards form, we recognize that while all animal and vegetable forms, even the highest, are moulded by circumstances to fit their places in the economy of nature, this moulding power—this adaptation of form to circumstance—becomes more and more obvious the lower we descend in the scale of development.

The next fact relates to the *habitat* of bacteria, to the medium in which they live, water. They inhabit water either as such in the ordinary sense, or in the various conditions recognized as *moisture*, whether occurring on damp surfaces or as filling the interstices of solid bodies, which bodies, when so impregnated with water, are said to be damp. Those who are familiar with chemical work, know that this quality of dampness goes a great deal further than the popular notion of it; that many things ordinarily called dry, yield, when subjected to the drying processes commonly used in the laboratory, evidences of being really moist. Consequently, moisture, regarded as a limiting condition of bacterial life, is a very wide and comprehensive one.

From this statement, it must not be understood

that bacteria do not exist in the atmosphere. But their existence there in an active form strictly depends on moisture. They attach themselves, without doubt, to those minute particles which, scarcely visible in ordinary light, appear as motes in the sunbeam, or in the beam of the electric lamp. It is by the agency of these particles that they are conveyed from place to place.

Notwithstanding that the word bacterium means a rod, and that many of the forms to be immediately referred to are not rod-like, I am obliged to use it, because it is used by others as a general term for the whole group of organisms known to botanists as *Schizomycetes*. This designation being obviously too long, I attempted, in 1870, to introduce the word *microzymes*, a word which was intended to denote the fact that, in the development of these organisms, the process of vegetation is always associated with chemical processes of a peculiar kind, in a way comparable to that in which the vegetation of the yeast plant is associated with the alcoholic fermentation. I forego the use of the word microzyme, for the reason I have mentioned, viz., that it has not been taken to, but I am not the less sensible that such a word is as much needed now as ever; for it is evidently inconvenient to say, as I now find myself compelled to say, that bacteria—rods—may be either globular, egg-shaped, or filamentous. Cohn classifies our organisms under terms expressive of these various forms, the most important being micrococcus, bacterium, vibrio, and spirillum. I have drawn these on the blackboard.

Bacteria have, as a rule, two states of existence, a state of activity and a state of rest. When a liquid teeming with bacteria in the active state is observed under the microscope, the attention is so riveted, that it is an effort to take away the eye from the instrument. The movements have been often described. In the case of rod-shaped bacteria, the axial movement, in which the rod advances or retreats in the line of its axis, the direction being frequently reversed, is the most common. This kind of locomotion occurs often by fits and starts, the body remaining in the intervals quite still, or assuming a pirouetting or spinning movement. In all rod-like bacteria, it is probable that the progressive or axial movement is associated with rotation, for, in observing the motion of vibrios, it is easy to see that they, in progressing, twist round the axis of the spiral. When this is the case, it looks as if the filament were executing a wriggling motion, i. e., as if its body were contractile; but this is obviously deceptive. The mechanism of the motion is as little understood as those of *Oscillatoria*, which it closely resembles. It must be carefully distinguished from the passive motions which are exhibited by all particles of size comparable to that of bacteria, when suspended in a liquid of which the density does not differ very widely from their own. Certain forms of bacteria appear to be motionless in all stages of their existence.

TREATMENT OF MAMMITS.

The following discussion at the Obstetrical Society

of London, reported in the *Medical Times and Gazette*, contains a number of useful points.

Dr. W. Bathurst Woodman had been struck with the rarity of mammary abscess in animals, notwithstanding the forced abstinence from suckling which cats and dogs undergo from the drowning of their progeny, and in spite of the great distention of the udders of cows, mares, and other animals when driven to market, or for other reasons separated from their young. Acting upon this suggestion, he carefully abstained from those manipulations and questionable "gentle" frictions which have so long been customary in such cases, and with the most satisfactory results. Where an abscess was threatening, in place of employing liniments he enjoined perfect rest, the avoidance of all frictions and rough handling, and of suckling for a time, if possible, from both breasts, but at all events from the one most implicated; the horizontal position, careful application of strips of isinglass, soap, or lead plaster, or of an air cushion with a hole in its centre, or of bandages taking their purchase from the opposite shoulder. In addition to these measures he employed preparations of opium, belladonna, or chloroform, applied in compresses, or ice, moist warmth, and leeches; the local congestion being also relieved by diaphoretics, diuretics, and aperients; belladonna, iodide of potassium, and sedatives being given, if requisite. Illustrative cases of this method of treatment were given, exemplifying its advantages.

Dr. Barnes observed that the principle of rest had long been applied to the treatment of inflammation of the breast. He himself had learned the value of it from Trousseau, when a student in Paris, thirty years ago. That admirable physician taught and illustrated it with great earnestness. He placed the breast at perfect rest by carrying straps of leather spread with pith (*emplâtre de vig*) all round it, so as to lift it well up and exert constant support on the vessels. Thus œdema was prevented, and engorgement soon subsided. It must, however, be remembered that this form of pressure was ill borne in the first inflammatory stage. It was chiefly serviceable when suppuration had taken place and the abscess had been opened; the sac was then rapidly closed. In the earlier stage he had seen leeches do excellent service. The pressure then must be lighter.

Dr. Ashburton Thompson said there were two modes of treatment not referred to in the paper, the administration of tincture of aconite, and total abstinence from fluids during the necessary number of days. By giving minim doses of aconite every hour he had succeeded in cutting short inflammations of the breast which there was no doubt would otherwise have run on to suppuration very frequently; indeed, in three cases out of four. In cases of stillbirth he had hitherto found abstinence from fluids sufficient in every case to avoid every kind of mammary disturbance. Ice was allowed in moderate quantity, and no other fluid, from the time of delivery until the fourth or fifth day, when the breasts generally return to their normal state of quiescence. He had had two cases recently in which this method of treatment

had been perfectly successful. The deprivation of fluid caused but little distress.

Dr. Edis, remarked that the chief thing to be remembered was to limit the supplies, to act on the bowels, and to insure perfect rest to the mammæ. He was accustomed to order a belladonna plaster to be applied to the mammary region within twenty-four hours of delivery, thus exercising pressure as well as arresting the secretion of milk. Abstinence from fluids and great moderation in diet were enjoined for the first few days, an aperient mixture of sulphate of magnesia and iodide of potassium being given twice or thrice daily, to relieve the bowels. The shoulders should be raised, and the arms kept perfectly quiet; the upper part of the chest being only lightly covered; any friction or drawing of the breasts being strictly prohibited. Where this method had been adopted he had never seen a single instance of mammary abscess. An evaporating lotion continuously applied to the mammaræ was in some instances sufficient to prevent the secretion of milk; but the pressure obtained from the plaster was of great service, and effectually prevented the employment of any friction.

THE THERAPEUTIC VALUE OF IODIDE OF POTASSIUM.

As I have for several years paid considerable attention to the action of iodide of potassium, I venture to offer the following remarks as supplementary to Mr. Spurgin's article in the *Journal* of September 5th, 1874. This medicine has been accredited with many modes of action: thus, in struma as an alterative, in asthma as a sedative, and in diphtheria as an antidote. To all these titles it may have a claim which different observers may think fairly borne out; but certainly the one distinct and indisputable action of iodide of potassium which I have noticed, is that of *stimulating the mucous membranes*; thereby influencing their action and promoting their secretions. Thus, as the results of its use, there are pain and sense of fulness across the eyes; increased secretion from the nares, mouth, fauces and bronchi; leucorrhœa and menorrhagia are greatly aggravated; and in persons very susceptible of its influence, diarrhœa is induced, not so much of a cathartic as of a dysenteric kind; that is, rather an increase of mucus with tenesmus than of serum with catharsis.

In a person suffering from an attack of chronic winter cough, the first symptoms are great difficulty in breathing, amounting to a sense of suffocation; hard, dry, racking cough, which the patient says he cannot subdue; while he expresses a belief that relief would be obtained if something could be brought up. The suffocation complained of has been attributed to a swollen state of the air-passages, obstructing the respiration; but there is a fair probability that the dry congested condition of the membranes is unfavorable to the interchange of gases requisite for blood-aëration, and the situation of the patient such that, however he may fill his lungs, his sufferings remain unrelieved. Whatever the actual state

of matters at this point, certain it is, that as soon as expectoration sets in, the breathing is improved; and although the disease has by no means gone, the patient is so far better. Many hours of severe suffering may be obviated by taking advantage of the power of iodide of potassium to restore and promote the secretion of the bronchial membranes, thereby greatly relieving the congested blood-vessels, producing comparative tranquillity of breathing, and getting the patient over the first stage of the disease much sooner than he otherwise would. This, however, is possibly not its only value. For, here again, however opinions may differ as to the cause of the emphysema which from an early period exists in these cases, no one can have witnessed the severe and straining cough at the onset of the attack, without feeling that it is at least possible for either dilatation of the air-cells or rupture of the tissue of the lung to take place—complications much less likely to occur, so far as the cough is concerned, when the sputum has been rendered easier of expectoration and the irritability of the congested membranes removed by free secretion. It is further to be remarked that the action of the iodide of potassium changes the purulent character of the sputa in chronic bronchitis to a much healthier appearance. From this view of its operation, it follows, as a matter of course, that when free secretion of mucus has set in the medicine should be used with caution or altogether abandoned; and, therefore, when in the treatment of bronchitis—capillary or chronic—moist râles are fairly established, the further management of the case should be on the principle of preventing a too abundant secretion, at the same time employing such means as may assist expectoration and maintain the strength.

In asthma, iodide of potassium is recognised as a valuable medicine. Here the explanation of its action generally given, is that of a sedative relieving bronchial spasm; evidence of the presence of spasm being found in the wheezing and whistling sounds heard in auscultation. Either of these sounds, however, fairly suggests the question, how far a fit of asthma is dependent on, or, at all events, greatly aggravated by, an abnormally dry condition of the mucous membranes, acting as in the diseases already mentioned, which is relieved by the iodide restoring the secretion.

In diphtheria, iodide of potassium is looked upon by many practitioners as the best remedy we possess. Here its alterative and sedative actions are laid aside, and we have it doing duty as an antidote to diphtheritic-poison; although, so far as can be seen, it exercises no new influence. In this disease, while there is free secretion from the nares, the breathing and cough-sounds are usually not very alarming, nor is respiration greatly impeded. It is not till the nares become dry—and doubtless the pharyngeal, laryngeal, and tracheal secretions diminished—that the formation of false membrane proceeds with fatal rapidity; hence, it does not seem too much to assume, so long as an iodide can keep up these secretions in such profusion as to prevent them from remaining on the parts sufficiently long

to undergo membranous change, so long will its action be beneficial. The idea of an antidote might be more satisfactory; but it cannot be substantiated; nor does this view of its action afford any indication as to what extent the medicine should be given; whereas, by paying attention to the degree of influence exerted upon the mucous secretions, the dose and frequency of administration may fairly be ascertained; if not, indeed, the knowledge acquired as to whether or not it is doing any good.

Without at present entering into a consideration of the influence of iodide of potassium on digestion and assimilation—the real sources of its so-called alterative power—I may state as my conviction, that in all the various manifestations of struma, etc., where this medicine is of service it acts, so far as the iodine is concerned, in stimulating the mucous membrane of the stomach and duodenum—possibly, by sympathetic action, the liver and pancreas also—to increased secretion, whilst its alkaline base tends to promote the digestion of fat and starch.

For the dose no absolute rule can be laid down, because, in few respects, indeed, do constitutions and temperaments differ more than in the relative irritability of the mucous membranes, and, consequently, the power of iodine to influence their action. Persons of the bilious temperament usually resist its power to a wonderful degree, whilst in those of the lymphatic, sanguineous, and, above all, the nervous, a few doses of two grains each will often suffice to cause coryza, ptyalism, pharyngeal irritation, and cough. In such diseases as diphtheria, the object should be to produce its influence as rapidly as possible, whilst in others, as struma, small doses long continued are preferable.

JAMES LAWRIE, M.D., Glasgow.

SUBACUTE OVARITIS.

By E. J. TILT, M.D.

(Transactions of the London Obstetrical Society xv. 1874.)

The difficulty of correctly diagnosing ovaritis arises chiefly from the fact that peritonitis obscures the diagnosis by embedding the pelvic organs in a mass which forms, only too often, a hard pathological puzzle. The symptoms may be divided into those known as catamenial and objective.

Although subacute ovaritis may be met with during the whole period of ovarian activity, it is most likely to occur in young unmarried women, from fifteen to twenty years of age, particularly in those who are delicate in body, sensitive in mind, and with proclivities to tubercular disease. When met with in women presenting none of these peculiarities, the patients will be found to have suffered all their lives from menstrual irregularities. Women, suffering from this trouble, complain of habitual pelvic and mammary pain, and especially of a marked aggravation of the nervous symptoms of menstruation, the menstrual flow being usually too abundant, or, as occasionally happens, too scanty. The pain of subacute ovaritis is deep-seated, persis-

tent, moderate, bearable, extending from the ovarian region to the knee, and sometimes accompanied by numbness, coldness and anæsthesia of the anterior part of the thigh. The pain gives rise to a certain degree of hesitation in the patient's movements, since she has learned to know that a sudden motion will increase it. Firm pressure on the ovarian region increases the pain and the peculiar nausea which not unfrequently accompanies it. The pain somewhat subsides soon after menstruation, only to reappear, however, a few days before the next period. It is not relieved by a free flow of the menses. Menstruation is preceded and accompanied by a marked aggravation of the usual mammary symptoms of that period, the breasts being swollen, painful and hot. Hysterical phenomena may also be present.

A vaginal examination will often throw a great deal of light on the case, even if it does not finally settle the diagnosis. The left hand should forcibly depress the ovarian region while the two first fingers of the right hand examine, *per vaginam*, both sides of the body of the uterus. A forcible inclination of the cervix uteri to the side on which the disease is supposed to exist, stretches the connections of the fundus uteri and the ovary to such a degree as greatly to increase the pain. Sometimes the ovary descends into Douglass's pouch, where it can be felt as an ovoid body, about two inches long, either more or less fixed by peritonitis, or fleeing from the finger, only, however, to return, as by a kind of ballottement. This body, when seized, will be found to be semielastic and peculiarly sensitive to pressure. A combined rectal and vaginal examination will often be found of great service in making out the diagnosis.

As regards treatment, a well appointed hygienic course for menstrual and inter-menstrual periods should be advised, combined with a tonic treatment. Six leeches should be applied to the suspected ovarian region, which should subsequently be painted with oleate of mercury for six weeks, after which counter irritants may be used.

In all cases where uterine disease coexists, it should be carefully treated, since it will be found impossible to relieve an ovaritis while a disease of the uterus is allowed to continue unheeded. In these cases, in addition to the above treatment, an injection should be ordered twice a day of acetate of lead. Not unfrequently, in these cases, marriage will be immediately followed by a severe attack of uterine inflammation.

THE TREATMENT OF SCABIES.

BY ROBERT LIVEING, M.D., F.R.C.P.,

Physician to the Middlesex Hospital, in charge of the Department for Skin-Diseases.

There are three principal methods of treating scabies: 1. By sulphuret of potassium baths; 2. By sulphur vapour-baths; 3. By sulphur ointment. It may be a satisfaction to those who cannot conveniently use the sulphur-baths, to know that the treatment by in-

unction of sulphur ointment is the most efficacious of the three methods.

There are three mistakes commonly made in treating scabies, especially in private practice: 1. In not applying the remedy over the skin of the whole body, except the head; 2. In using the ointment of the *British Pharmacopœia*, which contains one part in five, sublimed sulphur, and is too strong, especially for children; 3. In using the ointment for too long a time, and thus producing an irritable state of the skin. This often happens when people attempt to *treat themselves* for what they believe to be, itch. On the two latter points, most experienced observers agree; but on the former some difference of opinion exists. In a lecture recently published, my friend Dr. Tilbury Fox remarks: "It is a rule of prime importance in treating itch, to accurately determine at the outset how far the acari have disseminated themselves about the body. The reason is obvious. There is no need to apply parasiticides to parts in which the acari do not exist, because the irritation and eruption elsewhere are due to sympathetic action; and these irritated parts will get well, if the acari be destroyed, and they do not require the use of irritant remedies, such as parasiticides are, but soothing remedies. The practice is to apply the remedy to every part of the body where eruption exists in cases of itch. Clearly this is wrong, from what I have just said. My rule is this: If the disease be recent, if it be only slightly marked, if it began about the hands, and there be no cuniculi about the penis, I order the parasiticide to be rubbed into the interdigits, the palm of the hand, and the wrists, and I apply a soothing lotion to all other irritable parts of the body. . . . I repeat, then, by way of summary, in private practice, if the disease be slight and recent, use the parasiticide to the hands only, and soothe the other parts with some emollient or astringent lotion or ointment."

In the first place, I would remark, that in private practice it is in many cases next to impossible, and quite unnecessary, especially in women and girls, to examine the abdomen, thighs, and every part of the body, to ascertain how much of the eruption is due to scabies, and how much to sympathetic action.

The best plan of proceeding is, in my opinion, as follows. Having once ascertained that scabies exists, order one thorough application at night of mild sulphur ointment to the whole of the body, except the head, and direct the patient to sleep in the drawers, jersey, and socks that he has used the day before; this will secure the death of any stray acari about the body or in his underclothes; in the morning, he should use a warm-bath. The after-treatment should consist of the local ununction of the ointment, into those parts only which are especially affected, for two or three nights. In all mild cases, the cure by this plan is quite certain, and is attended with very little inconvenience. The objections to sulphur-ointment are its irritating qualities and its smell. The first is avoided by using an ointment made with half a drachm to two scruples of the precipitated sulphur to one ounce of lard. The precipitated is in finer powder, and less gritty than the sublimed sulphur, and more efficacious. A great part of the inconvenience aris-

ing from the smell of the sulphur may be avoided by using it only during the night. A drop or two of sandal-wood oil will quite disguise the smell. In cases of long standing, it is necessary to have the clothes baked; but a temperature of 190 deg. to 200 deg. Fahr. is quite sufficient, and the bed may be easily fumigated by using a little sulphur sprinkled on the cinders (not too hot) of a warming-pan.

It often happens that the irritation of skin remains after the scabies is cured, and thus induces people to go on with the sulphur treatment too long. Instead of doing so, a mild stavesacre ointment should be used, made with the oil of stavesacre and lard; this relieves the itching, and at the same time will kill any stray acari that may have escaped death from the sulphur. —*British Medical Journal*.

NEW DISCOVERIES IN HYDROPHOBIA.

A clever writer in *The Medical Record*, who occasionally entertains the readers of that excellent periodical with a series of articles which he calls "Pine Ridge Papers," treats in a most humorous but satirical manner the pompous style of certain learned medical gentlemen who enlighten their brethren from time to time, as occasion offers, with reports, wonderful for precision and verbosity, of their professional observations on the nature, history, and treatment of disease and the final post-mortem appearances, of course. The following specimen we consider an intellectual treat, and might have been written by Artemus Ward or Mark Twain:—

"Since I last wrote I have had an opportunity of performing an autopsy upon one of the dogs under observation. The patient was a Scotch terrier of an erratic temperament, and, except for the slight eccentricity of nipping any one who might be passing him in the dark, he had a quiet disposition. My attention was first directed to the possibility of his having hydrophobia by the fact that one day on entering my stable I caught him chewing a portion of the leg of my pants with evident relish. Withdrawing my leg he still persisted in his hold, pulled and shook his head as if with a determination to tear out that portion of the fabric for a vicarious meal. During all this performance there was a marked twitching of the tail and a peculiar expression to the eye, half significant and half determined, which reminded me of one of the pathognomic symptoms of emotional insanity. As the animal had not yet inserted his teeth into my skin, I felt composed, and had an abundance of opportunity to study the symptoms with the requisite care to make a correct diagnosis. During the whole time that his jaws were clinched, the spasmodic action of the tail continued at regular intervals, proving that the disease was a purely nervous affection. If we accept such a view, and are able to make out the nervous connection between the muscles the jaw and those of the tail, I think we can very satisfactorily explain the reason why the tail is drawn so tightly between the legs when the masseter muscles are relaxed in the last stages of the disease. I only throw out this

suggestion because, in all my reading upon the subject, I have never met with a similar observation; hence I am glad of this opportunity to place it on record. Inserting the bulb of the thermometer into the left ear, the animal bent his body laterally in the opposite direction, and for a moment seemed to have a tonic spasm, clearly proving that the power of reflex action still remained.

Having thoroughly satisfied myself that the animal had hydrophobia, I caused my attendant to pass a collar around the dog's neck and fasten thereto a chain. The collar was of leather, one inch and five-eighths wide by one sixteenth of an inch in thickness, and provided with a large stout buckle. The chain was the ordinary one "sold in our shops." During the operation of ligating the neck, and in order to prevent my attendant from being bitten, I engaged the dog's attention by a to-and-fro motion of my leg, thus increasing his hold. This I have found, by an experience in one hundred and fifty-two similar cases, to be very effectual, provided the animal's teeth have not already entered the flesh.

After being conducted to the kennel and secured, the attendant had a narrow escape. While in the stooping posture, pouring some water from a pail into a smaller vessel, the dog leaped and snapped at his buttocks, and just missed the skin. By a timely jump, no other injury than a loss of a portion of the pants was suffered. Immediately on being released the attendant gave the dog a smart kick in the perineum, when the animal uttered a short yelp, retired to the corner, and had an abundant evacuation from the bowels, at the same time urinating freely. This may have only been a coincidence, but I refer to the circumstances to show that the sphincters were in good condition, and that the posterior extremities were not paralyzed.

I may state, in passing, that this animal was kept under constant observation, as are all my other dog patients, night and day, each watcher being relieved every two hours. The enclosure is abundantly shaded by trees, each kennel is supplied with a curled hair mattress, a urinal, earth-closet, and a special drain for subsoil moisture. Besides this, each patient is regularly supplied with ice-water, by direction of the Society for the Prevention of Cruelty to Animals. I mention these facts to show the facilities I have for treating these cases.

Well, to make a long story short, the patient met a violent death by attempting to climb over his kennel, with a short chain, and falling on the wrong side.

Before proceeding further, I may state that the portions of pants that were lacerated by the dog's teeth were carefully cut out for purposes of analysis. I shall confine myself to a description of that portion removed from my own person. Examined with the naked eye, there were six distinct perforations by the animal's teeth, and one tear an inch long, slightly smeared with saliva. No blood visible. Examined under the microscope, the damp portions of the cloth were found to consist of a glairy mucus with a mixture of salivary corpuscles, which were mostly congregated around the perfora-

tions. Besides this, there were numerous granules, spindle-shaped cells, fibres, oil globules (high refraction power with a short focus), the whole mixed in a confused stroma of woollen fibre. Except for the oil globules and granules, the microscopic examination was negative. The fabric being treated with dilute acetic acid, gave rise to effervescence, due to the accidental presence of some whitewash. A drop of concentrated sulphuric acid gave rise to a momentarily brilliant red stain, followed by a marked and immediate loss of substance. Except for the character of the stain the same may be said for nitric acid tried in a similar manner. Examined again under the microscope with a high power, oil globules and granules still existed in great quantity with broken-down woollen tissue. With the view of obtaining some extractive matter, the fabric was then digested in a retort heated to redness. The cloth quickly curled upon itself, became crisp, and gave forth a characteristic odor of burnt wool. Nothing but ashes left in the retort. (This I intend to send to a young medical student, a friend of mind, who is taking a practical course in a laboratory.)

Now we shall proceed to the most interesting part of the autopsy. Cadaveric rigidity marked. Froth oozing from the mouth; abdomen tympanitic; eyes congested; mark of cord around the neck; marked turgidity of vessels of the hemispheres and effusion in the arachnoid. Aside from the ordinary lesions of suffocation, I noticed a punctate injection in the left optic thalamus, an embolus in the middle meningeal artery, a thrombosis of the left lateral sinus, and a small clot quietly undergoing fatty degeneration in the left lateral ventricle. At the point where the spinal cord was separated at the autopsy, there was a marked laceration. The corpus striatum was intact.

The larynx was filled with mucus, which I intend to analyze and report upon. The brain of the animal was at once placed on ice, to prepare it for microscopic examination.

PINE RIDGE, ON THE HUDSON.

CARDIAC DILATATION

BY ALFRED L. LOOMIS, M.D., PROFESSOR OF PRACTICAL MEDICINE AND PATHOLOGY IN THE MEDICAL DEPARTMENT OF NEW YORK UNIVERSITY.

(Phonographically reported for THE MEDICAL RECORD.)

GENTLEMEN:—To-day I will invite your attention to the subject of cardiac dilatation, which in its causation and anatomical changes is closely allied to cardiac hypertrophy, the subject of our last lecture.

By the term *cardiac dilatation*, you may understand a condition of the heart in which there is an increase in the capacity of its cavities; but the contractile power of the organ is diminished.

There are three recognized forms or stages of *cardiac dilatation*.

First:—*Simple cardiac dilatation*, in which the capacity of the heart cavities is increased without any marked change in the cardiac walls. Such a condition is apt to occur in connection with con-

valescence from any disease in which there has been great impairment of nutrition, such as typhoid fever, etc.

Second:—Hypertrophous cardiac dilatation.—In this form there is increase of the heart-cavities, accompanied by a slight increase of the thickness of the heart walls; but the contractile power of the heart is diminished. This condition may occur as the result of a degeneration of eccentric hypertrophy, or it may occur independent of any hypertrophy, of the cardiac walls.

Third:—Atrophic cardiac dilatation.—In this form the capacity of the heart cavities is markedly increased, and the cardiac walls are markedly thinner than normal. Sometimes the ventricular walls diminish to not more than two or three lines in thickness, and the auricular walls may become so thinned that they will present the appearance of a simple membrane. Under these circumstances the contractile power of the heart is almost lost. Anatomically as well as clinically the significance of cardiac dilatation is in proportion to the excess of the capacity of the cavities over the thickness of the cardiac walls. A cardiac cavity may be very much increased in capacity, but so long as there is a corresponding increase in the muscular power of its walls sufficient to meet the demand of the increased work they are called upon to perform, there will be little or no disturbance to the general circulation. Eccentric hypertrophy and hypertrophous dilatation approach each other very closely, and it is often very difficult to draw the line of separation between them.

Morbid Anatomy.—One or all of the heart cavities may be the seat of dilatation. The shape of a heart when it has undergone dilatation is changed according to the cavity which is the seat of the dilatation. If the dilatation is confined to the right ventricle, the heart will be increased in breadth; while if the dilatation affects mainly or only the left ventricle, the heart will be increased in length. Ordinarily when one cavity is dilated the remaining cavities are more or less affected in the same manner.

Cardiac dilatation occurs most frequently in the auricles; next in the right ventricle; and last of all in the left ventricle. While the left ventricle is less liable than the right to become the seat of dilatation it is more liable to become the seat of hypertrophy. When all the cavities are dilated, the entire organ is increased in size, and assumes rather an ovoid shape. When the ventricles are excessively dilated, the trabeculæ are sometimes reduced to the condition of fleshy tendinous cords. When the walls of the left ventricle are very much thinned, they collapse when the ventricle is opened. The anatomical changes which take place in the muscular tissue of the dilated cardiac walls vary with the degenerative process which precedes and attends the dilatation. When it results from pericarditis or myocarditis, there is serous infiltration and granular degeneration of the muscular fibres. When it is the result of fatty metamorphosis the muscular fibres undergo fatty degeneration, the process of which will be described under the head of fatty heart.

In hypertrophous dilatation, it is often impossible,

even by microscopic examination to determine the exact changes which the muscular fibres undergo; the abnormal state of the muscular fibres can only be determined by the other evidences of feeble heart power. You must be careful not to mistake a heart distended with blood and relaxed by putrefaction for a dilated heart. The distinctive marks of a heart softened by the putrefactive process are its extreme softness, its saturation with the coloring matter of the blood, and the evidences of decomposition in other parts of the body. Closely connected with the morbid anatomy of cardiac dilatation, is its causation.

Etiology. The causes of cardiac dilatation vary very widely. One class of causes may be included under the head of the immediate changes which take place in the muscular tissue of the walls of a heart that has undergone dilatation. I have already alluded to these. First, we have the changes in the muscular tissues which accompanies pericarditis and endocarditis; second, fatty degeneration of the muscular fibres; third, a cardiac dilatation which occurs with certain forms of protracted disease, such as typhoid fever, where the most careful microscopical examination will fail to detect any uniform change in the muscular fibre, except, perhaps a general atrophy of all the tissues. One or all these tissue changes may be regarded as causes of cardiac dilatation; again all the causes of cardiac hypertrophy may become the causes of dilatation in a heart which has a feeble resistant power. This group of causes may be classed under three heads:—*First: internal pressure during a cardiac diastole.* The wall of a heart may become weakened by the changes which occur in certain prolonged diseases, or it may become the seat of serous infiltration or fatty degeneration; then an abnormal pressure within its cavities during its diastole will cause the cardiac walls to yield beyond their normal limits. Such distension is certain to be followed by permanent dilatation of its cavities. Most of the valvular lesions which have recently occupied our attention may be the direct cause of such internal pressure during the cardiac diastole, after the manner I have already described in connection with the etiology of cardiac hypertrophy. Generally (as I have endeavoured to show you), when the cardiac cavities become distended beyond their normal limit, and thus temporarily lose their contractile power, rapid hypertrophy of the cardiac walls is developed, which compensates, and to a certain extent overcomes the dilatation. But if the cardiac walls are enfeebled by any of the degenerative changes to which I have referred, such compensating hypertrophy does not take place, and any valvular lesion which will permit a double current of blood to flow into a cardiac cavity during its diastole, the heart walls having become enfeebled by degenerative changes, will give rise to cardiac dilatation. *Second:* when the muscular tissue of the heart is the seat of primary fatty degeneration, after a time dilatation of the cavities takes place, the normal blood pressure being sufficient to produce it. In the same manner will a heart become dilated when its walls are the seat of myocarditis. That form of cardiac dilatation which follows typhus and typhoid fever or chlorosis, usually disap-

pears when the attenuated muscular fibres of the heart, with the rest of the muscles regain their normal condition; but the dilatation which results from fatty degeneration of the muscular walls of the heart steadily increases. *Third:* there is still another cause of cardiac dilatation which has already been referred to in connection with the history of valvular diseases; that is, degeneration of the muscular substances of the heart which is the seat of eccentric hypertrophy. The manner of its development I have already described. The dilatation does not occur in this class of cases until long after the development of the valvular diseases which give rise to the hypertrophy. Usually the hypertrophy becomes very extensive before the degenerative dilatation commences; but when it once begins, it progresses very rapidly, and the failure of heart power is attended by very distressing symptoms. The power that obstruction to the pulmonary circulation has in producing dilatation of the right ventricle has been considered in connection with valvular diseases of the heart. When these obstructions exist, eccentric hypertrophy rather than dilatation is generally developed.

Symptoms. The symptoms that attend the development of cardiac dilatation chiefly depend upon the character and seat of the dilatation. In simple cardiac dilatation, the heart walls possess normal power, but the capacity of the cavities is increased, and the amount of blood to be expelled with each cardiac pulsation is greater than normal, consequently there is labored action of the heart (often to such an extent that it may readily be mistaken for the action of a hypertrophied heart), yet the force of the heart's action does not increase, and therefore we have a feebleness of the radial pulse. The rhythm of the heart's action will not be disturbed. In that form termed atrophic dilatation you have a very different state of affairs. The heart cavities are not only dilated, but the walls of the cavities are thinner than normal,—the heart power is insufficient for the expulsion of the blood from its cavities, and as a result, there is a labored action, a markedly feeble radial pulse, and the heart, on account of the increased amount of labor, staggers with action, the arteries are improperly filled with blood, the veins become over-distended, the rhythm of the heart's action is disturbed, and the radial pulse becomes weak and intermitting. These latter are points of special importance, as affecting the question of prognosis; for, if a patient has all the symptoms of cardiac dilatation without an irregular and intermitting pulse, the prognosis is comparatively good. The same disturbance of the circulation occurs in that form of dilatation which is developed from the degeneration of eccentric hypertrophy.

The first, and perhaps the most constant symptom, which is common to all varieties of cardiac dilatation, is cardiac palpitation. At times this palpitation is very severe and distressing. There is almost constantly a sense of painful palpitation in the region of the heart. Very soon after the palpitation has manifested itself, the patient will begin to suffer from dyspnoea on slight exertion; when he is quiet he suffers very little. As the irregularity of the heart's

action and the palpitation increases, the patient's countenance assumes a pale, languid, anxious expression, with more or less lividity of the lips. On excitement or active physical exertion, the entire face and neck become livid; the pulse, which usually is regular, for a time becomes irregular and intermittent. In this condition patients often live some time in comparative comfort, but they are conscious, not only of a loss of physical, but of mental power, and are troubled with dyspeptic symptoms, and a sense of fullness about the epigastrium. As the disease advances, and the cardiac dilatation reaches a point at which it is always troublesome, the patient has constant dyspnoea, which becomes severe on slight exertion; cardiac palpitation is always present, and often accompanied by attacks of syncope. The countenance now assumes a still more anxious expression, the lips retain a constant lividity, and the pulse is still more irregular and intermitting. With these symptoms there will be scantiness of urine, and it will very likely contain albumen. The feet and ankles become oedematous, the oedema gradually extend upwards, until the patient is in a state of general anasarca. The respiration now becomes very difficult, so much so that the patient cannot lie down, but is obliged to sit with his head inclined forward and resting upon some firm support, and he is usually unable to utter more than a single word at a time. The extremities become cold and blue; the mind wanders, and the patient dies from general anasarca with pulmonary oedema. In nearly all cases of cardiac dilatation, when it becomes extensive, the surface of the body will have a yellow tinge, showing that the circulation through the liver is more or less disturbed.

During the latter stages of this affection, most violent paroxysms of dyspnoea will occur, and it will seem as though the patient must die in some of them, yet they rarely prove fatal; but the patient passes into a state of coma and dies unconscious. In extensive cardiac dilatation there is always danger from sudden syncope, which may prove immediately fatal. To describe to you *all* the phenomena that attend the different degrees of cardiac dilatation modified as they are by the idiosyncrasies of the individual, as well as by the varying extent of the valvular changes which may be present, would be almost an endless task.

The phenomena already described, which are present to a certain extent in all cases, are sufficient to lead to at least a problematical diagnosis. Besides, the physical signs of this affection, if properly appreciated, are very distinctive and generally will remove all doubts in connection with a case. You must be prepared, however, to find that the symptoms which develop in different cases greatly vary; but the variation depends more upon the valvular lesions which are developed in the course of the dilatation than upon the dilatation itself.

Physical Signs.—Upon *inspection* it will be noticed that the visible area of the apex beat is increased; but it is so indistinct that it will be difficult to determine by inspection the exact point where the apex strikes the walls of the chest. This is espe-

cially the case if the chest walls are covered with much adipose tissue or are at all œdematous.

In persons with thin chest walls you will sometimes notice an undulating motion over the whole of the precordial space. The precordial region is never prominent as is sometimes seen in eccentric hypertrophy.

Upon *palpation* you will readily distinguish dilatation from hypertrophy by the feebleness of the cardiac impulse. Although it can sometimes be felt as far to the left as is the axillary line, yet there is an absence of the lifting, forcible impulse which attends cardiac hypertrophy. It is often difficult to determine the exact point of its maximum intensity, but it will be noticed that over the entire precordial space there is an undulating motion, and the apex beat will be diffused, wanting in force, and resembling a feeble step. Sometimes with this character of apex beat a purring thrill will be present. I stated to you that a purring thrill with the apex beat was almost characteristic of mitral stenosis; but you may have a purring thrill with mitral regurgitation, when the regurgitation is associated with cardiac dilatation.

Percussion gives a greatly increased area of lateral dullness. The area will be increased to the right of the right side if the heart is the seat of the dilatation and in some cases the increase will extend an inch or more to the right of the sternum. If the left side of the heart is the seat of the dilatation, the area of dullness will be increased to the left, and may extend well into the axillary space.

The shape of the increased precordial area will be oval. This point is of importance in the differential diagnosis between cardiac dilatation and pericardial effusion. The area of the superficial cardiac dullness is not increased in the same proportion as the deep-seated, as is the case in cardiac hypertrophy. Dilated auricles are recognized by an upward increase in the area dullness. When the jugular veins are permanently dilated and knotted, the existence of dilatation of the right auricle will not be difficult to determine.

Auscultation.—The sounds of a dilated heart are short, abrupt and feeble. The second sound is often inaudible at the apex, and the two sounds are of very nearly equal duration. Whenever a cardiac murmur has existed prior to the development of the dilatation, as the dilatation develops the rhythm of the murmur is lost, and it becomes simply a confused murmuring sound. This condition has been denominated *asystolia*. It is a condition in which you are unable to determine whether the murmur is synchronous with the first or second of the heart; and pauses or intermissions occur at irregular intervals, which are of more frequent occurrence during exercise than when the patient is quiet. When the asystolic condition is present, prognosis is very unfavorable, independent of the general condition of the patient; for it shows that, in addition to the valvular lesions which may be present, cardiac dilatation has been developed to such an extent as to give rise to complete confusion of the normal heart sounds. Under such conditions the patient is liable to die at any moment. *Asystolism* is generally accompanied by a diffused cardiac im-

pulse which is peculiar, and is readily appreciated by the ear as it rests over the precordial space. The respiratory murmur is diminished in intensity over the whole of the upper portion of the left lung.

Differential Diagnosis.—The diagnosis of cardiac dilatation rests mainly on the following conditions: Feeble action, undulating impulse, indistinctness of apex beat; lateral increase in the area of percussion dullness (very nearly square in its outline); short, abrupt, and feeble heart sounds; feeble, irregular, and intermitting pulse, accompanied by the general symptoms of systemic and pulmonary obstruction and congestion.

The differential diagnosis between cardiac hypertrophy and cardiac dilatation is never very difficult. The symptoms of the two conditions differ very materially. For instance, the heart sounds are intensified in hypertrophy and feeble in dilatation. In both cases there is an increased area of apex beat; but in hypertrophy it is full, distinct, and forcible; while in dilatation it is feeble, diffused, and indistinct. An individual with cardiac hypertrophy apparently has a more than normally vigorous and forcible action of the heart, which is increased by active exercise, and has none of the feebleness of heart action which attends the person with cardiac dilatation. The fact that an individual has had cardiac hypertrophy with all its attendant symptoms, but now has a tired expression of countenance, livid lips, and daily decrease of physical vigor, accompanied, it may be, by œdema of the feet, shows that cardiac hypertrophy has become cardiac dilatation. Dilatation of the right side of the heart, in addition to the signs already detailed is to be recognized by changes produced in the veins. The presence of distended, irregular, turgid jugular veins, tells very positively of dilatation of the right auricle; and pulsation in the jugulars, accompanied by feeble heart action and increase in the area of cardiac dullness upon the right, speaks very distinctly of dilatation of the right ventricle associated with tricuspid regurgitation. It is sometimes somewhat difficult to make a differential diagnosis between pericarditis with effusion and cardiac dilatation. In pericarditis with effusion the area of dullness is increased, and there is a feeble apex beat, and sometimes an undulating impulse, all of which are present in cardiac dilatation. The heart sounds, however, in pericarditis are more removed from the surface than they are in dilatation, and the area of percussion dullness is pyriform while in dilatation it assumes nearly a square shape. Besides these distinguishing features, you will rarely meet with a case of pericarditis, even with effusion, when you may not hear a friction sound at some point; but in cardiac dilatation there is an entire absence of friction sound, no matter in what position the patient may be placed. In addition to these differences in the physical signs, the history of the case and the accompanying rational symptoms will be of great assistance in solving the question of differential diagnosis between either cardiac dilatation and pericarditis or cardiac hypertrophy and fluid in the pericardium. The differential diagnosis between enlargement of the heart, either from dilatation of its cavities or hyper-

trophy of its walls and thoracic tumors, will sometimes present itself. Both of these cardiac conditions may be developed as the result of, or in connection with, thoracic aneurisms. One very reliable differential sign is the direction of the increased area of percussion dullness in thoracic aneurisms and mediastinal tumors, for they always enlarge upward and to the right or left; while in cardiac enlargement the area of dullness is increased in a lateral direction and downward. This fact, taken in connection with the other physical and rational signs of aneurism, is generally sufficient for the differential diagnosis between these conditions.

Consolidation of lung tissue in the region of the heart may give rise to some of the signs of cardiac enlargement, but the other attending physical signs of pulmonary consolidation will enable you to distinguish between the dullness on percussion produced by the pulmonary consolidation and the increased area of dullness produced by the cardiac enlargement.

Prognosis.—The prognosis in cardiac dilatation is always bad, and the danger to life is increased in proportion to the excess of the capacity of the cavities over the thickness of their walls. The more the capacity of the cavities is increased, the greater the thinning of the cardiac walls, and the greater the danger to life. Feebleness of the general muscular system and impoverishment of the blood greatly increase the danger. If these patients have been subject to paroxysms of dyspnoea and attacks of syncope, the prognosis is especially bad, for then there is constant danger of sudden death. The dangers attending any intercurrent pulmonary disease are always great.

Whenever dropsy of any kind has been developed, prognosis is very bad. When this condition is developed, few patients, even with the best of care, live more than eighteen months; the majority die within one year. In those cases in which the pulse is regular, or only becomes irregular after violent physical exertion, the prognosis is comparatively good, for much can be done to relieve and prolong the life of such patients. When general anasarca has been developed, and the patient is no longer able to assume the recumbent posture, you will be able to give temporary relief, but it will be only temporary. This brings us to the question of treatment.

Treatment.—As regards complete recovery, the treatment of cardiac dilatation is altogether unsuccessful. It is not a curable disease. Even the good effects of palliative measures are only temporary. There are, however, two important objects to be aimed at in the management of a case of cardiac dilatation.

First, maintenance of the general nutrition at the highest possible point, as the most certain means of preventing flaccidity of the cardiac walls; *second*, prevention, as far as possible, of all irregular or violent action of the heart. To obtain the first object, the diet must be of the most nutritious character, should be taken in small quantities, and at short intervals. An exclusive milk diet will often be found most advantageous. Stimulants must be

taken only in small quantities, and with the food. When symptoms of anæmia are present, *iron* may also be administered with the food. As a rule, the daily administration of iron to a patient with dilated heart is safe.

The patient should have the greatest amount possible of fresh air, and should be kept under the very best hygienic influences. The skin should be kept active, and slightly stimulating baths may be employed for the purpose of increasing the power of the capillary circulation.

To attain the second object, this class of patients must be placed under the strictest rules with regard to exercise. They should never allow themselves to be placed in such circumstances as to render necessary sudden and violent exercise, for a single violent physical exertion may jeopardize the life of any patient with cardiac dilatation. Every such exertion carries the point of resistance in the cardiac wall a little beyond what it can never regain. Flannel should be worn next the skin. A dry bracing air, generally, agrees best with this class of patients. As regards the remedial agents to be employed in the management of cardiac dilatation, each case must be studied by itself. All exhausting discharges must be arrested. If hyperæmia of the liver and other abdominal viscera is present, it must be relieved by the occasional administration of an aloetic or mercurial purge. Excessive purgation, however, is not admissible, but a daily movement of the bowels, without exhausting catharsis, is important. When there is loss of appetite and impaired digestion, vegetable tonics and mineral acids are indicated. Those remedial agents which have a direct effect upon the heart itself are all-important in the management of this form of cardiac disease. The most important and most serviceable of this class of remedies is digitalis. It can always be administered in full doses, or at least in sufficiently large doses to regulate the heart's action. Often, when the feet become œdematous and the patient cyanotic, this remedy has a wonderful effect, and may often entirely remove, temporarily at least, all unpleasant symptoms. When the heart's action has been regulated by the use of the remedy, it may be continued in smaller doses, and the small doses should be continued for a long time. If, after a time, the heart's action cannot be controlled by the digitalis, belladonna or opium may be combined with it. The effect of such combination is to tranquillize the excited heart; but the tranquillizing effect will be only temporary. This combination of remedies, then, should only be resorted to when the digitalis has been thoroughly tested and has failed. In the use of digitalis the same restriction should be observed which was mentioned in connection with the treatment of other cardiac diseases, namely, it should never be used indiscriminately, for the time will come, sooner or later, when the remedy will cease to have any controlling effect upon the heart and then we are helpless. It is always desirable to postpone that period as long as possible.

Should the heart become nervously excited during the administration of the digitalis, as it often does,

various antispasmodic remedies may be employed. Paroxysms of dyspnoea may be temporarily relieved by hydrocyanic acid, cannabis Indica, ether, and dry cupping along the spine. During the time when the disease is making slow progress, a great variety of measures may be indicated, and may afford temporary relief; but your chief reliance will always be upon digitalis and iron, associated with the most nutritious diet, and a careful avoidance of all excitement and undue physical exertion.—*New York Medical Record.*

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TO OUR SUBSCRIBERS.

It is our intention to inclose in our next issue, accounts to all who may be indebted to us. Will our Subscribers kindly remember us, and remit promptly?

THE TREATMENT OF EPISTAXIS.

Dr. Beverley Robinson, Surgeon of the Manhattan Eye and Ear Hospital, publishes in the *New York Medical Record* of March 20th an interesting case of epistaxis. The patient was admitted and operated upon for cataract, and when convalescent was attacked by severe bleeding from the nose. All the usual remedies had recourse to in such cases were tried, including the most powerful local astringents and the internal use of ergot and quinine, but without success. The patient was in a serious condition, when compression of the facial arteries upon the superior maxillary bone, just before they reach the alae of the nose, was made by means of two small pads of lint. These were sewed to a piece of tape at the proper distance from one another, and the ends of the tape were passed across the cheeks and above the ears, and tied securely behind the occipital bone. The result was most satisfactory, the hæmorrhage being at once controlled, but for several days it returned whenever the pads were removed.

A NICE PRACTICE FOR SALE.

The Chicago *Medical Examiner* advertises a practice at one of the favorite Southern springs for sale. The yearly receipts amount to upward of \$40,000, and \$20,000, cash or approved paper, is asked for it. The reason given for the retirement of the present occupant is that he has amassed a fortune. No wonder!

THE HOMCEOPATHS IN ONTARIO.

Our readers will perhaps remember that some months ago the homœopathic members of the Ontario Medical Council, headed by Dr. Campbell of Toronto, retired from it in a body, and intimated their intention of applying to the Ontario Legislature for separate legislation. We now learn that they have reconsidered their determination, and will proceed in June next along with the other bodies to elect representatives.

AMERICAN MEDICAL SCHOOLS.

The fourteenth graduation class of Bellevue Hospital Medical College, numbering one hundred and ninety-four, received the degree of M.D. on the 25th of February.

The sixty-eighth graduating class of the College of Physicians and Surgeons of New York, numbered one hundred and eight, received the degree of M.D. on the 2nd of March. Rush Medical College of Chicago has just held its thirty-second graduation meeting, and sent forth a graduating class of seventy-three.

The Medical Department of the Nashville University has just graduated fifty-eight students; the Medical College of the University of Wooster, thirty; the School of Medicine in connection with the University of Maryland, Baltimore, fifty; the College of Physicians and Surgeons at Baltimore, thirty-nine; Yale College, seven; Syracuse University, eleven—one of whom was a female.

A MAGNIFICENT BEQUEST.

According to the *Philadelphia Medical Times*, a Mr. Hopkins of Baltimore, lately deceased, has bequeathed the sum of \$3,500,000 for the endowment of a university, and to facilitate the working of its Medical Faculty he has left a similar sum for the endowment of an Hospital in connection with it.

ERRATA.

In Dr. Benson Baker's paper on fibrinous concretions of the heart and large vessels, published in the January number of the *Record*, occur several typographical errors. On 1st column, first page, last line, for "increase in color" read "increase in water"; second column, first page, second line from top, "in an alcoholic form" read "alotropic form"; on first column, page 431, line 20 from the bottom, the "connection formed in the veins" read "the connection between the concretions formed in the veins"; page 432, 2nd column, 3rd line from top, for "Post neither" read "Post Mortem" 13th line from top, for "catolytic" read "catalytic"; page 433, 1st column, 12 lines from bottom, for "coirhotic" read "cirrhotic" page 434, 23rd line from bottom, for "Dr. Dulcher" read "Dr. Butcher."

PERSONAL

Dr. R. F. Godfrey, (M.D., Bishop's College,) E. G. Anderson, W. A. Molson, J. L. Ritchie and R. A. Stevenson, (M.D., McGill College) have passed the Primary Examination for the membership of the Royal College of Surgeons of England.

Dr. J. R. Smallwood (M.D., McGill College, 1868) has established himself at St. Clet, Que.

Dr. Lemieux (C.M., M.D., Bishop's College, 1874) has removed from St. Urbain to Ormstown, Que.

Sir Geo. Duncan Gibb, Bart. (M.D., McGill College, 1846) of Bryanston St. Portman Square, London, lately assistant physician to Westminster Hospital, has been promoted to be physician to the Hospital in consequence of the death of the well known Dr. Ainstie. We congratulate our friend, (whose former kind acts were repeated during our visit to London in October last) on this acknowledgment of his ability and worth.

Dr. Jos. Workman (M.D., McGill College, 1835) has tendered his resignation to the Government of his position of Medical Superintendent of the Toronto Insane Asylum. Dr. Workman has held his position for the past twenty-five years, and retires on account of advanced age. Dr. Workman's ability on mental diseases is universally acknowledged all over the American continent.

Dr. Robert Kains of St. Catharines passed his examination before the Royal College of Surgeons of England on the 25th January last.

Dr. Eliphalet G. Edwards has been elected President of the Western and St. Clair Division Medical Association.

Dr. Toner of Washington, U.S., has issued a very valuable work on the Early Medical History of the United States. We see it favorably noticed in our American Exchanges.

Dr. Stimson, of St. George, Brant County, Ont., has removed to Detroit, Michigan, where he proposes to locate himself permanently.

Dr. J. Baker Edwards, Professor of Practical Chemistry and Microscopy in the Medical Faculty of Bishop's College, has been appointed Consulting Chemist to the department of Inland Revenue, as food analyst for the principal Inland Revenue districts of the Province of Quebec, including the Montreal, Prescott, Eastern Townships and Three Rivers Districts. This is the first appointment under the Act passed during the last Session of Parliament for "The Prevention of the Adulteration of Food, Drink and Drugs."

This Act differs chiefly from the corresponding Legislation in Great Britain in being initiated and executed by the Department of Inland Revenue instead of by various municipal and local authorities. This will give a consistency and uniformity of action to the proceedings, which it is expected will overcome the chief difficulties which have been experienced in its operation in Great Britain.

Dr. Botsford of St. John, New Brunswick, President of the Canadian Medical Association, intends representing it at the meeting of the American Medical Association, which takes place at St. Louis, Mo., in May.

Dr. Montrose A. Pallen of St. Louis, who resided in Montreal for several years during the Southern Rebellion, and who in 1864 took the degree of M.D. at McGill College has accepted the position of lecturer on Surgical Diseases of Women, in the New York University. Dr. Pallen has made this subject a specialty, and has been an enthusiastic worker at it for years.

Dr. George A. Baynes of Montreal has just completed a very practical and instructive public course of lectures on Hygiene. A vast amount of valuable information was given, which cannot fail to be highly beneficial to all who attended the Course.

Dr. Colin Sewell, (M.D., University of Edinburgh,) who left Montreal two years ago for Australia, returned to Canada by the S.S. Polynesian on 16th of March. We hear he intends to commence practice in Quebec.

Dr. Andrew J. Cattanaich (M.D., McGill College, 1871) is at present surgeon of the Allan S. S. Polynesian.

Dr. Benson Baker, formerly surgeon Allan S.S. Polynesian, has commenced practice at Southport, Lancashire, England.

Dr. DeGrosbois (M.D., McGill College, 1868) is in practice at St. Bruno, Que.

Dr. Clinton J. Morse, (M.D., University of Edinburgh, 1864) who has for many years been in practice at Amherst, Nova Scotia, intends removing to Montreal early in May. We will welcome our old College friend to our rapidly growing city.

BIRTH.

In Montreal, on the 20th March, the wife of John T. Finnie M.D., L.R.C.S.E., of a son.