Obstetrical paralysis is usually recovered from entirely in the course of a few weeks or a few months. If recovery does not occur within this period the prognosis is very much more serious, although improvement may occur even after the lapse of many years.

After an infant's arm has been held in the position of inward rotation for some months the posterior part of the capsule becomes so stretched as to permit the head of the humerus to slip out of the glenoid cavity posteriorly, while the anterior portion of the capsule and the pectoralis major are shortened. This backward subluxation is always made easier by the relatively small size of the glenoid cavity in infancy. It may be made easier by a tearing and stretching of the posterior part of the capsular ligament through the same trauma which stretched the upper cords of the brachial plexus.

A dislocation of this sort is easily reduced by measures which stretch the inward rotators of the arm, but when thus reduced it is held in place with extreme difficulty, because the cause which originally produced the dislocation, that is, the unopposed action of the inward rotators, is still present.

Any abnormality in the shape of the head of the humerus or in the glenoid in a case accompanied by paralysis or lack of development of the deltoid and supra- and infra-spinatus muscles is probably secondary to the paralysis, and if accompanied by a dislocation is not to be looked upon as the primary cause of the dislocation. Lack of bony development of a paralyzed arm may become very marked after the lapse of years, and this lack of bony development is not in any way to be regarded as proof of a congenital defect.

All early cases of obstetrical paralysis are to be treated by sling or bandage which will support the paralyzed muscles and prevent dragging on the ligaments and injured nerves.

In cases of obstetrical paralysis which persist without improvement there is reason to hope that surgical intervention looking to a union of the torn ends of the fifth and sixth cervical roots at a point from a quarter to three-quarters of an inch from their emergence from the canal may be of benefit.

The subluxation resulting from the paralysis is to be treated by stretching or section of the contracted muscles and ligaments, by osteotomy, arthrodesis, or muscle transfer, according to the conditions present in each case.

STEAM IN THE TREATMENT OF CHRONIC, HYPERPLASTIC, AND SENILE ENDOMETRITIS, PUTRID ABORTION AND PUERPERAL SEPSIS.[1]

BY F. W. JOHNSON, M.D., BOSTON,
Visiting Gynecologist, Carney and St. Elizabeth's Hospitals.

When I went on duty at the Carney Hospital in the fall of 1898 I found Dr. Malcolm Storer had been and was using steam in the treatment of the various forms of uterine hemorrhage. This method of treatment appealed to me, and I began its use at once in the treatment of chronic endometritis and menorrhagia.

Concerning this method Prof. A. Duhrssen thus writes:[2] "The method of arresting hemorrhage by steam was first employed by Snegurieff, of Moscow, in 1894, for profuse hemorrhage during the removal of an echinococcus cyst from the liver. Since then experiments have shown that parenchymatous organs can be incised almost bloodlessly, and that hemorrhage from arteries of the size of a dog's femoral can be quickly arrested by a steam jet.

"The technique is simple. A fenestrated uterine catheter is joined by a gutta-percha tube to a small boiler. The steam issuing from it should be at 212° F. Higher temperatures are advocated by some, but the author has never used them, except in experiments on animals. In this way dangerous uterine hemorrhage can be arrested permanently and painlessly without an anesthetic; and serious operations, for instance, hysterectomy for fibroid tumors, may often be avoided.

"The details of the procedure differ according to the age of the patient. If the steam is allowed to act for two minutes, exfoliation of the uterine mucous membrane follows, either *en masse* or piecemeal. A raw surface is left which forms adhesions, which cause obliteration of the cavity and subsequent atrophy of the uterus, and hemorrhage is cured as certainly as though the uterus had been removed. In order to exclude cases which are unsuitable for this treatment, such as malignant tumors or placental remnants, the cervix must always be dilated first. An important detail is that the instrument, when it passes through the cervix, must be encased in a drainage tube, for otherwise the heat may damage the cervical walls, and be followed by obliteration of the cervical canal and hematometra.

"Cases in which this treatment is indicated are exhausting floodings between the ages of forty and fifty, whether caused by chronic metritis, by abnormal friability of the walls of the uterine vessels, or by small interstitial myomata. In this last case the steam probably produces atrophy of the myoma, as well as of the uterus. Where it is required to arrest abnormal uterine hemorrhage without causing obliteration of the uterine cavity, as in young women with too profuse menstruation, the steam must not be allowed to act for more than a quarter of a minute (Snegurieff says one minute, which is certainly too long), and the process should not be repeated until after the next menstrual period. The application of steam for a quarter of a minute successfully sterilizes septic endometritis in puerperal fever, and the raw granulating surface left offers an excellent barrier against the further entry of bacteria into the circulation. Good results have also been obtained in subacute and chronic gonorrhea, and the author suggests its use as an abortive treatment for acute cases.

"If carried out properly the treatment is quite harmless, and has no disadvantages."

Dr. Alexander Rovinsky wrote me that Snegurieff, together with Blogovolin, had experimented on animals and had come to the following conclusions: (1) Desired portions of the liver could be excised without loss of blood, the animals surviving; (2) any part of the spleen could be cut out without loss of blood; (3) whole lobes of lungs can be removed without any loss of blood; (4) the same applies to the kidney; (5) also to some extent to the brain; (6) it is possible to stop the bleeding from the spongy portions of bones; (7) the marrow of the bone coagulates and the regeneration of the bone takes a normal course;

[1] Read before the Suffolk District Medical Society, Section for Obstetrics and Diseases of Women, November 22, 1899.
[2] Klinische Wochenschrift.

(8) almost the whole cornu uteri may be taken out of the dog without bleeding; (9) the femoral artery of the dog, when cut transversely or otherwise, will not bleed after the application of steam; (10) bleeding from skin and muscles ceases immediately; (11) wounds subjected to the action of steam heal *per priam intentionem;* this last was observed not only on the experimented animals, but also on human beings.

Sneguireff has applied steam successfully as a hemostatic in the following operations: (1) In five cases of resection of the knee-joint, without any preliminary use of the bandage, or any employment of ligatures or forceps; (2) in extirpating a carcinomatous mamma under the same conditions; (3) for the removal of fatty, cancerous and other tumors of the skin; (4) in amputation of the cervix; (5) in resecting bones and in sequestrotomies: (6) in abscesses to deodorize and to promote filling up of the abscess cavity; (7) in various sinuses and fistulæ (especially of a tuberculous nature).

Sneguireff, in 1895, was first to suggest the use of steam in the uterine cavity. He spoke of steam as a styptic, even strong enough to stop a dog's femoral. In 1895 Pincus was led to try it in gynecology by Sneguireff's article. He used the ordinary kettle of an inhaling apparatus with a safety valve. A male catheter with a slight curve and three lateral windows to aid in the escape of the steam was used in conducting the steam inside the uterus. He states that it is a *sine qua non* that the uterus should be perfectly movable if the operation is to be done without ether. In 1895 he used it in a few cases with good results.

Panecki had a similar experience in 1896. Kahn (1896) in his early trials used steam at 100° C. for two minutes; later 115° for fifteen seconds to one minute. In his experience he found that the more energetic the treatment, the better the results. It is generally painless. He used it mostly post partum. If in such cases the uterine walls are thin, only low pressure is admissible. It seems to do good in *incipient* inflammation of the appendages, but should not be used when actual pus is present. If the products of conception are retained, they should first be removed. He used it in nine puerperal cases. He claims that steam in the uterine cavity has (1) no disadvantageous sequelæ and causes practically no pain; (2) quiets sensitiveness; (3) starts good contractions; (4) deodorizes; (5) sterilizes; (6) through shutting off blood and lymph vessels by coagulation of albumin, it affords a roof for new granulations to form under.

Pincus, in 1897, reports several cases in the treatment of putrid abortion. He emphasizes that in puerperal cases it must be used only when appendages are free. It is especially valuable in cases of habitual abortion, as it removes the diseased endometrium which very likely is the cause of the abortion. At that time he used a wooden speculum to guard the vagina. He uses it without paying any attention to possible retained membranes. He regards it, to a certain extent, a specific in the treatment of putrid abortion. It was not found valuable in bleeding submucous fibromas or other causes that render the inner surface of the uterus irregular. Examination of specimens showed that the action was most vigorous in the immediate neighborhood of the canula.

Schick (1897) used hot water instead of steam. He used it boiling with certainty that by the time it reached the uterus its temperature had dropped to 80° C. or 85° C. He used it one-half to two minutes. He used it in four cases, all under ether.

In 1897 Sneguireff had used steam 400 to 500 times without the slightest bad effect. In cases occurring at the menopause, if the bleeding cannot be stopped otherwise, he advises using the steam longer than one minute. He advises against the use of steam, if there is any disease of the adnexa. Steam should be delivered in the uterus at about 100° C.

In 1898 Pincus further remarks about vaporization and vapocauterization: "My communications concerning the value as a therapeutic agent of hot aqueous steam in gynecology and obstetrics have attracted much attention on the part of my colleagues, if I can judge by the number of communications I have received from all parts of the world in reference to it. But my own service in the matter is only a very modest one, for, as I have already carefully stated, it was only through the reading of Sneguireff's communication as to the styptic effect of hot steam that I was led to introduce its use in gynecological and obstetrical therapeutics."

Pincus has got up a very complete apparatus, which is described and pictured in the *Centralblatt für Gynecologie*, 1898, page 256. In this machine he controls both the pressure and the temperature of the steam. He thinks many of the failures have probably been due to not sending the steam into the uterus hot enough. He generally keeps patients in bed a week. There is almost always more or less discharge, which seldom amounts to much. The odor in septic cases almost always stops. He still sticks to his view that tender appendages and a stricture of the cervical canal are contraindications. He has no fear that steam will get into the tubes, but if the tubes are diseased harm could easily be done by the vigorous contractions of the uterus that are set up. In general terms he regards a very rigid cervix as a contraindication. Warns against veiling malignancy by means of vaporization. He says steaming is of especial value in the bleeding of the climacteric, not depending on malignant disease, and leucorrheas following the menopause. In one obstinate case he used it at 119° C. for two minutes, with the complete destruction of the uterine canal, but cured the patient just the same. He has used it in 18 post-climateric floodings, with good effect in 13. Was obliged to repeat the steaming in two cases. Also used it one minute at 100° C. to 105° C. in seven cases of metrorrhagia and subinvolution, with five successes. He does not believe in using it in submucous fibroids on account of the danger of suppuration. Has used the steam in a large number of cases of endometritis with good results. Sometimes he uses the steam and sometimes the vapocautery. Cured three cases of gonorrheal endocervicitis. He found the steam did no good in a case of puerperal general sepsis.

Hollander, in 1898, showed his apparatus for the use of hot air instead of steam. Can get by it three times as much heat as by steam; can measure it better and apply it more exactly.

Baruch (1898) reports a case of complete atrophy of the uterus following steaming. "Girl, age twenty-seven, was steamed once as an out-patient by a female M. D. Never any menses afterwards, with symptoms of the menopause. Uterus, when examined several months afterwards, was found tiny in size.

Again quoting from Pincus (1898): "By this time

the apparatus has proved its worth. Now it will be only a great exception that one will be obliged to remove a uterus for a hemorrhage at the menopause. Further experience leads me to suggest the following: (1) The cervix should be protected in every case. It is a necessity if the treatment is to last longer than one-half minute. As far as that goes, time begins to show me that in most cases half a minute is quite enough, especially if previous to using the steam you carefully wipe out the uterus with a Playfair sound. If there is much detritus in the uterus, steam should be played in for thirty seconds, then the clots removed and the steam reapplied for thirty seconds more; (2) there should be no repetition of the steaming until complete regeneration of the mucous membrane has taken place; (3) steaming for endometritis should be done in the few days before menstruation, or after it, and never during."

Kahn (1898) writes: "If you want to produce a deep effect use low temperature a long time, and if superficial a high temperature a short time, that is, bleeding of the menopause *versus* puerperal conditions. In puerperal cases I use even up to 112° C. for even three to four minutes, depending on intensity of affection." He reports a case of pregnancy and labor following one steaming out. "The steam tube should not be pressed against the fundus, as you may get a perforation later on."

Weiss (1898) reports the case of a girl, age nineteen, where steam at 100° C. for three or four minutes was used for metrorrhagia (not a puerperal case). There followed complete obliteration of the uterine cavity and severe symptoms of the menopause. He has collected three cases of obliteration and two of stenosis of the cervix following the use of steam, a large number considering how new the process is and how little used as yet.

For three years Fenomenow has used steam where the uterus was to be opened. Where the uterus was septic he has often steamed for several minutes to ensure its disinfection before removal. He even steams before vaginal hysterectomies and before morcellation.

Pincus (1898) gives his views on the present state of steaming as follows: "Atrophy of the uterus with obliteration of the canal cannot be called a 'mischance'; it is inexcusable. Steaming is of inestimable value in inoperable carcinoma of the fundus. In the treatment of subinvolution I regard it as something we cannot do without. It may also be of value in producing artificial sterility, if desired."

Pincus makes the rule to use the steam as short a time as possible. Fifteen seconds is generally enough. Thirty seconds is the maximum. In young people thirty seconds is to be regarded as too much. It is better to repeat after the mucous membrane has had a chance to regenerate. The temperature of the steam inside the uterus should range between 102° C. and 110° C. The rule is, the shorter you are to work the higher must be the temperature. The quicker you work, that is, the less the cooling off after you shut off the steam in the catheter, so much the prompter is the effect. In a recent case he used 109° C. for only eight seconds and stopped a vigorous hemorrhage entirely. In old women, when very likely you desire to obliterate the uterine cavity, he uses it about two minutes at 105° C. to 110° C. and repeats if necessary.

After experimenting for a long time I have decided that the following method of doing the operation gives me the best results. The ordinary steam throat atomizer is used for generating steam: A hard-rubber tube eight inches in length, the size of a No. 18 French bougie, conically pointed at one end, is connected with boiler by soft-rubber tubing. The hard-rubber tube is detachable and is boiled in the soda solution with the instruments. The external genitals are washed with soap and water, then with permanganate-of-potassium solution and oxalic-acid solution; finally rinsed off with normal salt solution. The vagina is treated in the same way. After dilating the cervix, wipe dry with sterile gauze the cervical and uterine cavities. Introduce the small-size uterine speculum and through it steam body and cervix thirty seconds. Remove uterine speculum, wipe dry with sterile gauze the cervix and body, and steam again for thirty seconds. The patient is kept in bed from four to six days. Short douches are given night and morning. The steam as it leaves the boiler is 212° F., but inside the uterus the temperature varies from 192° F. to 212° F., dependent upon the amount of moisture in the uterus. With a dry uterine cavity the self-registering thermometer would indicate 212° F. There is no danger of burning too deeply if the steam is used as above described.

Unless I wished to obliterate the uterus I should not consider it permissible to use the steam under pressure or to use it longer than one minute. In puerperal cases the curette makes raw healthy as well as diseased surfaces, while the steam can be used without doing any mechanical injury. The steam is safer and more thorough than the curette. We all know from experience repeated over and over again how very difficult it is to curette smoothly the inside of the uterus. Islets of tissue are apt to be left here and there, especially at the fundus and in the horns. The steam uniformly reaches every part of the uterine cavity, and there is no danger of it escaping into the tubes, if used as I have described.

It was by having steamed uteri examined by the pathologist that the proper *modus operandi* could be determined upon. To work up from a comparatively short exposure of the uterine cavity to steam (212° F. as it leaves the boiler), examining the uteri from time to time, until the examination showed that the endometrium was destroyed almost down to the muscular layer, seemed the safer plan, then drawing conclusions from the clinical results. I felt safe in stopping just short of the muscular tissue in cases of chronic endometritis, hyperplastic endometritis, etc., than to run any risk of *burning* the muscular tissue or of destroying the glands and thus cause cicatricial tissue where no endometrium would be produced. Where there is suspicion of malignant disease, tissue for microscopical examination should be removed with the curette at the time of steaming. The tissue destroyed by the steam begins to come away in seven to twelve days. It may come in small pieces or in quite large junks, like the specimens shown. Since receiving Dr. W. F. Whitney's report of the examination of the first uterus sent him, I have steamed through the smaller uterine speculum and have used the steam as above described. The smaller speculum would offer less chance of escape for the steam, consequently there would be more heat inside the uterus and the cervical canal would be just as well protected.

DR. WHITNEY'S REPORT.

"I have finished the examination of the four uteri which you have cauterized by steam, and as far as I can determine, in none of them has the mucosa been entirely destroyed through its entire thickness. The action in all seems to be fairly uniform throughout the entire canal, although in No. 3 (January 21, 1899) it failed to reach the bottom of the cornu at the fundus. In No. 4 (January 25, 1899), on the whole, the action seemed to be the deepest, while in No. 3 (January 21st) it seemed to be the least. In none was there much of the cervical lining left, whether destroyed or rubbed off I cannot say, but there was no evidence of any action on the muscular tissue. In all the action was most marked at the fundus, but as the endometrium was thicker there only about one-half its thickness was destroyed. Of course the cells may be killed more deeply than the microscope will show, as their vital function may be gone although the nuclei still stain and the shape of the cells is unaltered. But as far as any physical evidence goes, the action has in no case extended more than through three-fourths of the thickness of the endometrium, and then without absolute uniformity."

This report was very satisfactory, in that it showed the destruction did not go into or even quite down to the muscular tissue. I was aiming to get live steam hot enough inside the uterus to cause exfoliation of the entire endometrium. The effect on the edometritis will show this. If it is desired to cauterize into the muscle, as in senile cases of hemorrhage or endometritis, it would simply be necessary to allow the steam to escape inside the uterus for two minutes or more.

I have here tabulated 31 cases. Previous to using steam these would have been curetted. Each case was looked up two or more months after the steaming to ascertain what effect it had had on the endometritis and the menstruation.

In addition to the above, I have used it in one puerperal case, curetting just before using the steam. The uterus had been curetted twice by the attending physician. She had been septic for three days. Pulse and temperature were high. There was a profuse and offensive vaginal discharge, she had had one rigor and there was phlegmasia alba dolens on the left. She got no worse after the steaming, remained about as she was for thirty-six hours, and then began to improve.

During the past year steaming was done in a great many cases where other operations were performed, and it was not always possible to say how much the other operations contributed to the relief of symptoms. Consequently, in these 31 cases, I have selected as much as possible those who were alone steamed.

CASE I. K. McM., twenty-four, single. Dysmenorrhea for the past six months; constant leucorrhea; frequent micturition, with scalding. Consumptive family history. Diagnosis: Chronic endometritis and chronic urethritis. Uterus curetted for specimen, then steamed. A solution of nitrate of silver applied to the urethra. No tubercle bacilli found in the scrapings. Has been unwell five times since going home. Has had no dysmenorrhea and there is no leucorrhea.

CASE II. J. H. C., twenty-four, married. Backaches; severe dysmenorrhea; leucorrhea since childhood. Diagnosis: Chronic endometritis. Uterus steamed in February, 1899. Has menstruated since then without pain, and has been absolutely free from all backache and leucorrhea since the operation.

CASE III. W. H. H., thirty, married. One child, eleven years ago. Dysmenorrhea during the first day of sickness; abundant leucorrhea, requiring the use of a napkin; at times considerable hemorrhage from the bladder, and smarting and burning during micturition. Diagnosis: Chronic endometritis and chronic urethritis. Uterus steamed in May and urethra painted with nitrate of silver. The injection of the urine into guinea-pigs excluded tubercular disease, which was strongly suspected. No dysmenorrhea, no leucorrhea, and no trouble with micturition since the operations. The patient is now three months pregnant.

CASE IV. H. R., fifty-one, married. For four years very profuse leucorrhea, at times very irritating; obliged to wear a napkin most of the time. Diagnosis: Senile endometritis. Four months after the steaming there was a little leucorrhea, but it was not irritating. Advised a second steaming, which was done November 15, 1899; the uterus was steamed two minutes.

CASE V. A. A. Q., twenty-five, married. Menorrhagia, severe dysmenorrhea; leucorrhea for four years. Some time ago had scalding micturition for two months; dysmenorrhea, requiring the use of morphine. Diagnosis: Chronic endometritis. Uterus steamed. Two months after the steaming there has been no leucorrhea and no pain during menstruation.

CASE VI. R. P. E., thirty-one, married. Leucorrhea since puberty; a show of blood every two weeks for last five months. Diagnosis: Chronic endometritis. Uterus steamed. Been unwell three times since the steaming; first time went three weeks and five days; since then has been regular; almost no leucorrhea.

CASE VII. E. B., twenty-eight, married. Menorrhagia; the amount has doubled in the past two years; leucorrhea. Diagnosis: Hyperplastic endometritis. Uterus steamed. Been unwell twice since the steaming; flowed four days, formerly seven to ten, and had no pain; no leucorrhea.

CASE VIII. T. W. F., forty-one, married. Been flowing constantly for fourteen days; leucorrhea for one year; at times it is bloody. Diagnosis: Three polypi projecting from cervix; hyperplastic endometritis; uterus large. Scrapings removed for pathologist and the uterus steamed. First menstrual period occurred twenty-five days after the steaming; used twelve napkins; no pain. Menstruation returned in twenty-eight days; used eight napkins and was through in five days; no pain. Between and since these menstrual periods there has been scarcely any leucorrhea and that not bloody. Dr. W. F. Whitney reports that it was a case of polypoid glandular hyperplasia.

CASE IX. B. R., thirty-seven, single. Constant leucorrhea with backache and dragging down; dysmenorrhea with menorrhagia (soaks twenty-five to thirty napkins). Diagnosis: Chronic endometritis. Uterus steamed. No improvement in the menorrhagia; relief of the dragging down feeling and diminution in the amount of leucorrhea. Advised steaming again.

CASE X. H. C. Q., thirty-two, married. Gonorrheal vaginitis, endometritis and urethritis of some weeks' duration. May 5, 1899, uterus steamed; vagina swabbed with Churchill's tincture iodine; nitrate of silver applied to dilated urethra.

May 30th, returned with a fresh attack. Treated as above, with complete relief.

CASE XI. M. S., twenty-four, single. Constant leucorrhea with backache; dysmenorrhea. Diagnosis: Chronic endometritis. Uterus steamed. No dysmenorrhea or leucorrhea since the operation.

CASE XII. E. Q., sixteen, single. Leucorrhea with backache and severe dysmenorrhea. Diagnosis: Chronic endometritis. Uterus steamed. Been unwell twice since the steaming; no pain; no leucorrhea.

CASE XIII. M. D., thirty-seven, married. Had four abortions at three months from July, 1895, to December, 1898; constant white thick leucorrhea. Diagnosis: Chronic endometritis. Uterus steamed. No leucorrhea since the

steaming. It would now be very satisfactory if she would become pregnant and not abort.

CASE XIV. L. K., twenty-five. Thick vaginal discharge, at times offensive, for a long time. Diagnosis: Debility, retroversion and chronic endometritis. The uterus was steamed and an Alexander operation done. Two months and a half after the steaming she reported that there had been no vaginal discharge for some weeks after the steaming. Then without cause it began, but it was not as bad as formerly. Two months and a half after the first steaming, and a few days after a menstrual period, steam was again applied. The cervix was found patulous, the internal os easily admitted a Sims's sound and there was no indication of cicatricial tissue. There has been no leucorrhea since the second steaming.

CASE XV. C. E., married four years. Dysmenorrhea. Profuse, thick, yellow vaginal discharge. Diagnosis: Chronic pelvic peritonitis and chronic endometritis. On opening the abdomen a condition was found demanding hysterectomy. On examining the uterus the endometrium was found everywhere of a brownish-black color. The fundus and horns had been thoroughly steamed.

The uterus was sent to Dr. W. F. Whitney, and the following is his report: "I have examined the uterus cauterized with live steam, and find in the cervix, where the mucosa was very thin, that apparently the whole thickness had been killed, in the middle of the body about three-quarters of the thickness, and in the depths of the fundus about one-half the thickness. The action was very uniform everywhere, but I should not think that the length of time was sufficient to destroy the mucosa throughout. Of course, the action may go deeper than the microscope shows, but all that I can judge by is the depth to which the blood corpuscles and cells are altered."

After Dr. Whitney's report was received the uterus was steamed for a longer time.

CASE XVI. A. E. W., twenty-three, single. Severe dysmenorrhea; considerable leucorrhea. Diagnosis: Chronic endometritis; hemorrhoids. Uterus was steamed. Three months after leaving the hospital had menstruated twice without pain. There was no leucorrhea.

CASE XVII. K. T., twenty-five, married seven years and never pregnant. Has had repeated attacks of peritonitis and frequent and painful micturition. Severe dysmenorrhea and considerable leucorrhea. Diagnosis: Retroversion and chronic endometritis. Uterus steamed; left tube and ovary removed, part of the right ovary resected and the uterus suspended. Three months after the operation had menstruated twice, and instead of flowing ten to fourteen days she flowed seven days the first period and six the second. During these periods there was but slight dysmenorrhea.

CASE XVIII. M. G., seventeen, single. Neurasthenic; severe dysmenorrhea; profuse thin, odorless vaginal discharge. Diagnosis: Retroversion with adhesions and chronic endometritis. Uterus steamed; portions of both ovaries resected and the uterus suspended. Menstruation did not appear for a month and a half. She used in all but five napkins; before the steaming used eighteen to twenty. Had severe dysmenorrhea; no leucorrhea.

CASE XIX. L. R., thirty-one, single. Severe dysmenorrhea; some leucorrhea. Diagnosis: Retrocession; shortening of the uterosacral ligaments; chronic endometritis. Uterus steamed; uterosacral ligaments cut and uterus suspended. Menstruated while in the hospital with but little pain. Menstruated one month after getting home with scarcely any dysmenorrhea; no leucorrhea.

CASE XX. A. F., twenty-seven, single. Menorrhagia; constant thin, yellow vaginal discharge. Diagnosis: Retroversion, bound down by adhesions and chronic endometritis. Owing to the profuse menorrhagia the uterus was curetted and then steamed. The right tube and ovary were removed, part of the left ovary resected and the uterus suspended. Four months after the operation she had been unwell three times; flowed five days and used about eight napkins. Has had slight amount of leucorrhea.

CASE XXI. E. O. B., twenty-five, single. Neurasthenic; dysmenorrhea; menorrhagia; thick, yellow vaginal discharge with offensive odor. Diagnosis: Retroversion and chronic endometritis. Uterus steamed and an Alexander operation done. Two months after the operation she had been unwell twice. There was great improvement in the menorrhagia, but she still had dysmenorrhea and leucorrhea.

CASE XXII. E. B. H., twenty-six, single. Leucorrhea began thirteen months ago as a yellowish discharge, which soon became greenish in color. Irritation and soreness soon began about the vulva, accompanied with scalding during micturition; obliged to wear a napkin; severe dysmenorrhea. Diagnosis: Endometritis, vaginitis and urethritis. Uterus steamed and Churchill's tincture iodine applied to the dilated urethra. Three and a half months after the steaming she had been unwell twice; flowed about as formerly; some dysmenorrhea, but not as much as formerly; none during the flow; diminution in the amount of leucorrhea.

CASE XXIII. B. F., twenty-eight, single. Severe dysmenorrhea the first day, confining her to bed; profuse leucorrhea. Diagnosis: Anteflexion of uterine body; undeveloped uterus; retrocession; chronic endometritis. Uterus steamed. Been unwell twice since steaming; flowed freely and had no pelvic pain. Before the operation flowed but little, and had severe dysmenorrhea; no leucorrhea.

CASE XXIV. A. R., twenty-eight, married. Sterile; considerable leucorrhea; no dysmenorrhea until September, 1898. Diagnosis: Tumor on right side of uterus anteriorly; chronic endometritis. Uterus steamed; left tube and ovary removed; small fibroid enucleated. Been unwell once since the steaming; flowed as formerly, but had no pain; has no leucorrhea; freedom from all pain.

CASE XXV. H. D., forty-five, single. Epileptic for thirty years; considerable leucorrhea; dysmenorrhea. Diagnosis: Retroversion; cystoma on the left side; chronic endometritis. Uterus steamed; cystoma removed and uterus suspended. Been unwell once since the operation; no improvement, except some diminution in leucorrhea.

CASE XXVI. C. E. W., forty-two, married. Slight leucorrhea. For the past ten years has had backache when unwell. Diagnosis: Retroflexion; a mass on the left side of the uterus; chronic endometritis. Uterus steamed. Hysterectomy was then done. Specimen sent to Dr. W. F. Whitney. This was the second uterus sent to Dr. Whitney.

CASE XXVII. M. McC., twenty-nine, married six years. Has had one child and two abortions; last abortion three years ago. Six weeks ago began to flow, and has flowed more or less ever since; previous to six weeks ago had not flowed for months, as she was nursing her child; white and thick vaginal discharge, requiring a napkin. Diagnosis: Retroflexion of a large soft uterus; chronic endometritis. Uterus steamed; uterus suspended. No flowing since the steaming (over two months); much leucorrhea; uterus of normal size and in perfect condition. Advised steaming again.

CASE XXVIII. F. B., thirty-two, married one year; one child; no abortions. For six weeks sharp, crampy pain in left ovarian region; backache; white, watery vaginal discharge; some dysmenorrhea. Diagnosis: Chronic endometritis; uterus pushed to the right; cystoma of the left ovary. Uterus steamed; cystoma removed; uterus suspended. Been unwell twice since the steaming; first time flowed one-half day; flowed a very little for a few hours; "had an ache just below the navel." Second time flowed two days; soaked five napkins; no pain; has absolutely no leucorrhea.

CASE XXIX. C. C., thirty-three, married eighteen years; three children; no abortions. Constant leucorrhea; for three years has had more or less dull pain in the region just below the right kidney; pain in the left ovarian region. Since October has noticed swelling in the right iliac region. Uterus steamed; cysts in right ovary punctured with cautery; uterus suspended; adhesions about the gall-bladder broken up. The right kidney, which was very movable, was fastened by securing its capsule to the

fascia below the ribs with three sutures of silk. Great improvement reported six months after the operations.

CASE XXX. E. B., thirty-four, married three years; one child thirteen months old. Some leucorrhea; dysmenorrhea. Diagnosis: Retroflexion; uterus large; chronic endometritis; left ovary enlarged and prolapsed. Uterus steamed; retention cysts in the left ovary were punctured with the cautery; uterus suspended. Has been unwell once since getting home; flowed the usual time and amount; no pain: has no leucorrhea.

CASE XXXI. C. N., twenty-nine, married four years; one child two years ago. Backache; sagging and dragging down; considerable leucorrhea. Diagnosis: Retroversion; chronic endometritis. Uterus steamed; retention cysts in left ovary punctured with cautery; uterus suspended. Been unwell once; flowed as usual; little pain; has a little leucorrhea.

Clinical Department.

MASSACHUSETTS GENERAL HOSPITAL. CLINICAL MEETING OF THE MEDICAL BOARD.

REGULAR meeting, December 15, 1899, DR. C. B. PORTER in the chair.

IDIOPATHIC DILATATION OF THE COLON.

DR. R. H. FITZ showed a case of this affection in a child aged two years and one month. The patient had been nursed until twenty-three months old, and since the age of eleven months had also been fed. Constipation had existed from birth, intervals of several days being frequent, during which no dejections occurred, and then only from the use of laxatives or enemata. When six months old there were frequent loose discharges during a period of two months, and since then constipation had been more marked than before. There had been a considerable progressive and symmetrical enlargement of the abdomen, with slight temporary diminution in size, dependent upon evacuations of gas and feces. At present the distended abdomen is everywhere tympanitic, although the abdominal walls are sufficiently flaccid to permit the distended intestinal coils to be readily palpated. There is no obvious cause of obstruction to be determined, and the general nutrition of the child is unaffected. The case is regarded as one of infantile dilatation of the colon, due to obstinate constipation. As there are no urgent symptoms, and sufficient temporary relief is to be obtained by laxatives and enemata, it is considered inexpedient to recommend at present any so radical a measure as extirpation of the distended portion of the large intestine. The mother has been informed of the nature of the affection and of the importance of continued medical supervision of the child.

DR. J. J. PUTNAM showed the following cases:

I. INSTRUCTION IN CO-ORDINATION IN TABES.

This was a patient with tabes, who, about a year and a half before, had became rapidly ataxic, so that, finally, he was almost wholly confined to his chair. The case was shown to illustrate the benefit which may be obtained from systematic instruction in co-ordination. The patient had been taught by MR. Harding to stand and walk and to do various exercises, first with two chairs, then with crutches, then with canes, and finally alone. Considering the difficulties which had to be met, he had made good progress.

II. MUSCULAR DYSTROPHY.

This was a patient with advanced muscular atrophy of the dystrophic variety. The case was reported partly as an illustration of that type of disease, partly in order to show how long such patients may continue to live and even work, in contradistinction to the case of those with atrophy of spinal origin. This patient is now about thirty years old, and all the skeletal muscles are involved, and, in addition, the muscles of the face. The deltoids, the supra- and infra-scapular muscles and those of the forearms and hands and of the calves are much better preserved than the rest, and the first two groups mentioned are remarkably large, firm and dense. The disease began when the patient was thirteen years old and has been slowly progressing ever since, yet in spite of this fact, and even though there is double facial paralysis and the erect posture can only be maintained by skilfully balancing, he is still able to support himself, in a measure, by peddling.

DR. G. L. WALTON showed a

CASE OF ACROMEGALY.

Constant relation between this disease and lesion of the pituitary body has been disputed on the ground that such lesion has been found without sign of acromegaly, and conversely that post-mortem examination in acromegaly does not always show pituitary disease. In view, however, of the coincidence of these affections in the vast majority of cases, it is pertinent to inquire whether these apparent discrepancies may not be reconciled, a reconciliation towards which Dr. Brooks has made a decisive step in practically establishing the fact that acromegaly is due only to *increased secretion* of the pituitary gland. It follows that a destructive lesion of this gland will not produce acromegaly unless the secretion is increased; the cases of acromegaly not accompanied by post-mortem change in the pituitary body may be due to the fact that the increased secretion was not accompanied by obvious physical abnormality of the gland. In this connection I should like to exhibit a section, prepared by Dr. Mallory, from the pituitary tumor of our late colleague whose case was reported in the JOURNAL of December 7, 1899. The specimen shows several large collections of colloid, showing the active secretion, and possibly increased secretion, of that part of the gland not destroyed by the sarcoma. In this case sarcoma was not only demonstrated by the post-mortem finding, but was indicated by the clinical history, the rapid course and early fatal termination offering a marked contrast to the history of uncomplicated acromegaly, the latter disease running a course of perhaps fifteen to twenty years, without metastasis, spinal headache or vomiting, a history pointing to hyperplasia of the gland rather than to malignant invasion.

Individuals presenting moderate variations from the average type in form or feature (variations suggestive of altered function of the pituitary gland either within or without the limits of health) are not infrequently observed, but the opportunity is rare to study a typical case of pure acromegaly. Such a type is presented by this patient, for whom we are indebted to Dr. Howard, under whose observation he came at Tewksbury.

The patient, a teamster, fifty-nine years of age;