Oct. 9, 1901, she came in, complaining that there was failure of vision in the right eye, this having lasted since the previous July. I was then absent from the country, so she failed to consult me. There had been little change since the trouble first appeared. With this eye, which was externally normal, the vision was now less than one tenth, and she complained that the letters of the test card appeared "spotted." The other eye remained as before. On dilating the right pupil, numerous retinal hemorrhages came into view. They were scattered over the entire fundus. The largest hemorrhage was in the macular region, and was quite extensive.

The application of the Faradic current was commenced Oct. 17, and used, ten minutes at a time, three times a week, up to May 26. A single absence from the city of ten days, occurring in the early spring, formed the only interruption. Small doses of iodide of potash were also administered during all this time. The peripheric hemorrhages began to absorb much more quickly than the macular, being substantially gone before the large one in this situation had shown any signs of yielding. The first improvement was, therefore, in lateral vision, but central before long followed suit. Dec. 20 vision had risen to nearly five tenths, Jan. 7 to six tenths, and on Feb. 7 the macular region was nearly free. Slight vitreous haziness long persisted, but finally cleared up. May 26 vision was nearly seven tenths, all the letters on the line being correctly made out, though with some effort. As this was her original vision, and nearly equaled that of the other eye, treatment was now suspended. My last ophthalmoscopic examination was made Sept. 2, and was conducted in the country; the light available was not very good, but as far as I could see there was not a single spot of hemorrhage in the fundus, a very slight grayish discoloration alone marking the site of the more extensive blood patches. About Oct. 15 the patient visited me at my office here, and I found vision nearly eight tenths, slightly more acute than I had ever found it before.

This is but a single case. The recovery may have been due to other causes than the use of the current. It is possible that it might have occurred spontaneously. But it is surely an unusual instance of a *restitutio ad integrum* in a person of over seventy, of very full habit and in an aggravated case. The treatment is so simple and so easily applied that I trust other members of the profession will follow it up and report their results.

The little single-cell battery used was the "Baltimore." Leach & Greene of this city are ready to furnish the special connections for the eye, and it is only necessary to inform them whether a single eye or both eyes are to be treated.

In conclusion, a single word on the analgesic properties of the Faradic current. This fact, that local pain is thereby often relieved, is hardly appreciated at its proper value. Von Reuss has again and again found this to be the case in iritis and irido-choroiditis.

Speaking of the interrupted current he says (*loc. cit.*): "Its principal effect is that of relieving pain; in this we are seldom disappointed. The effect is generally promptly witnessed, sometimes indeed in a surprising manner. Thus I once summoned for my lecture a patient with iritis, whose presence was

most important to me. On the way he was taken with severe pain and blepharospasmus, and it seemed impossible to exhibit his case. I used the Faradic hand; in a minute and a half he was free from pain, could open his eyes and be exhibited to a crowded audience without difficulty." He goes on to say that the pain generally returns in a few hours, and that the length of the painless interval varies directly with the length of the application of the current.

Meanwhile we note the same effects from its use in other departments of surgery. Dr. Douglas Graham³ has found it of great value in mitigating the pain caused by the breaking down of adhesions of the joints. Complete relief has followed, twenty seconds after the use of the battery had been commenced.

According to Beard and Rockwell, teeth have been extracted and felons and buboes opened with little or no discomfort to the patient while a strong current was passing through the affected parts. If this be true, may not opiates be, to a certain extent, discarded in the treatment of painful inflammations of the eye? The experiment is certainly worth trying.

VESICAL APPEARANCES IN RENAL SUPPURATION.

BY EDGAR GARCEAU, M.D., BOSTON,

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IN an article by the author in the BOSTON MEDICAL AND SURGICAL JOURNAL,¹ attention was called to the appearances of the bladder in cases in which the upper urinary passages are inflamed and suppurating. The conclusions then drawn were these: The first characteristic that attracts notice is the frequency with which some alteration, in the nature of ulceration or swelling, occurs about the orifice of the ureter on the side corresponding to the lesion in the kidney above. Thus, in the author's list of cases, which were nine, in eight this alteration was seen. In Brown's² list of eight we were not informed with exactness in all of the cases as to this point. In three, however, there was positive assurance of such alteration. In three others either no direct reference was made with regard to it or we were left in doubt. Thus in eleven out of the seventeen cases there was direct evidence given by cystoscopy, which at least excited suspicion that the upper urinary passage on the corresponding side was diseased.

It is fair to assume, therefore, that if lesions are present at or about the ureteral eminence, we may expect to find lesions on the upper urinary tract on that side. These observations are quite in line with those observed in tuberculosis of the ureter and kidney. Numerous observations are now on record which confirm this statement. The analysis of the six cases in which this alteration was not observed was interesting. In one case the bladder was so swollen as to forbid deductions being drawn as to the relative size of the eminences. In two cases the bladder was normal and the infection was

¹ *Fractium as an Analgesic in the Loosening of Joint Adhesions. The Practitioner*, London, August, 1893.

² Vol. cxlvi, No. 23, p. 589, and Vol. cxlvi, No. 24, p. 627.

³ Johns Hopkins Hospital Reports, 1901, Vol. x, Nos. 1 and 2. From H. A. Kelly's clinic, Baltimore.

confined to the kidney, as was proved by operation. In two cases no mention was made of the lesions in the vicinity of the ureteral orifice of the affected side. In one case a peculiar condition of affairs existed. It was the left kidney which was diseased, but the left ureteral orifice was normal and the right eminence was described as puffy and deeply injected. The urine from the right side was normal, while that from the left was purulent. No explanation was offered, and not so much would have been thought of it were it not that in another case³ very much the same condition existed. In this one we had all the symptoms referable to the right kidney, including a large tumor on the right side, while the right ureteral eminence was perfectly normal. Very purulent urine had been collected from the right ureter. Ulcerations were observed on the left ureteral eminence, but it should be stated that purulent urine had been collected from the left ureter. The amount of pus was very light, and at the last examination, made lately, no pus was found. This last case has been under observation since the article was written, and as the bladder has exhibited changes which are of great interest, it is deemed worth while to report the case in full.

Mrs. M., thirty-five years old, American born, married seventeen years. Her previous history was not remarkable. Her family history showed a tuberculous taint, one of her brothers having died of pulmonary phthisis. She was first seen in September, 1898. She was a thin, spare woman of slight build, of exceedingly nervous temperament, and she had lost a great deal of flesh and was much reduced in strength from the effects of her sickness. She gave the following history: Had always been subject to headaches, vertigo and attacks of nervousness. Her heart and lungs were negative; digestion was good, appetite rather poor, and she suffered somewhat from constipation. She had had one child, who was eighteen years old. She had had one miscarriage, and following this there was a history of "inflammation of the bowels," which confined her to bed for a long time. Her menstruation began at sixteen, was regular, lasted four days, and had always been painful. In 1880 the urinary history began. The first symptom was a severe pain in the right kidney region, the pain leading down the course of the ureter, of agonizing character and of such severity that she was obliged to take large quantities of morphine to control it. The pain lasted for a week, during which time she was part of the time unconscious. She does not remember now if there was any hematuria during this first attack. The next attack of pain occurred a few months later. It was short in duration and less severe. Since that time she has had severe attacks of renal pain several times each year, and there has always been soreness and more or less pain all the time. There was no history of catheter infection nor of gonorrhea, nor of rectal disease. Micturition began to get frequent and painful two or three years after the onset of the disease. It kept getting worse and worse until she was practically an invalid. She had to urinate ten or twenty times a day, and during the night she always had to get up at least ten or twelve times. There was no incontinence. The pain in the right kidney region

was always localized. It was of a deep, boring character; it often disturbed sleep, and pressure over the kidney was painful. In 1891 she was operated upon for stone in the bladder, by Dr. James R. Chadwick. This operation gave some relief, but the urinary and kidney symptoms still persisted. In 1892 a vesico-vaginal fistula was made by another surgeon, in the hope of curing this cystitis. The fistula was allowed to remain open for two or three years, and then the patient, becoming tired of it, resolved to have it closed. Several operations were performed by various surgeons, which were unsuccessful. In September, 1898, an ether examination was made by the author, with the following result: In the vagina two small, minute fistulae were seen just behind the vesicle neck, close to each other. Each admitted a small probe. Through the cystoscope the bladder was very red but not granular looking; excavated ulcerations were seen at the side of the left ureteral orifice. Each was one centimeter long and one half a centimeter wide. The excavations were shallow, but they had well-defined edges. The right ureteral eminence was normal in all respects. Both ureters were catheterized. The right catheter slipped out, hence no urine was obtained from this side. The urine from the left side showed a slight sediment, which consisted of pus chiefly, free and in clumps, some blood, much free fat, a few granular casts of small diameter, a few large hyaline casts with free fat adhering to them; no tubercular bacilli found. The right kidney was found to be enlarged.

The vasico-vaginal septum was incised through the fistulae, the edges pared and sutures taken.

The operation was successful, and there was no more leakage.

When she was about to go home, she was told to wash out the bladder herself twice every day with a 2% solution of boracic acid. This she has faithfully done up to the present time.

The diagnosis of the case was stone in the right kidney with suppuration, and probably stone in the left kidney as well. She did perfectly well from the time of her operation until July, 1902. During this interval the bladder bothered her moderately, but she had been in very much better health than she had for many years previously. There had been some pain in the kidney, but it was no more than she had been having during previous years. She was seen the 15th of July, 1902, and she gave this history: Two weeks before, she was riding in an electric car which was going at a high rate of speed. The motorman was obliged to stop the car suddenly on account of an obstruction on the track, and the sudden stopping of the car threw her violently against the seat in front of her. Her bladder was full at the time. Immediately she felt a gush of urine in the vagina, and she had been wet ever since the accident. On examination the milk test showed that the fistula had reopened and was discharging urine in quite large amounts. In November, 1902, at her urgent request, the fistula was operated upon again and with partial success. At the time of the operation a cystoscopic examination was made with the idea of seeing if there had been any change in the appearance of the bladder. To the author's great surprise the bladder was found to be almost entirely normal in appearance. The

³ Case V, author's list.

ulceration about the left ureteral orifice had entirely disappeared. Both eminences were perfectly smooth, of normal size, of no abnormal redness, and there was nothing about either of them which suggested in any way a lesion in the kidney above. The bladder, as a whole, was injected slightly in excess of normal, but the individual blood vessels were not engorged, and there was nothing in the appearance of the bladder which suggested chronic cystitis. The right kidney was larger than the left one. No attempt was made to catheterize the ureters, as it was not wished to mask the diagnosis by adventitious blood; but the urines were separated by use of the Harris instrument, with the following result: The right ureteral urine was pale, very thick, and it was a long time before it flowed through the instrument. Two cubic centimeters were collected in ten minutes. The odor was very foul. There was a urea percentage of .5%. The sediment consisted of large quantities of pus, a little blood, a few hyaline and granular casts and a few large-sized epithelia. The left ureteral urine flowed freely, and 8 cubic centimeters were collected in ten minutes. It contained 1.51% of urea. It was of an amber color, and the sediment, which was slight, contained *no pus*. It was made up of spindle-shaped epithelia, a little blood, a few hyaline and granular casts. It was evident from this examination that the left kidney was not seriously diseased and the presumption is that there had been purulent pyelitis or ureteritis on this side which had since disappeared. The right one was in a far-advanced stage of destruction. It has been proposed to her to have a radiograph picture taken of her right kidney, with the idea of discovering a stone; but she has steadfastly refused to allow this for some unknown reason. Stone is strongly suspected from the history of the case, and from the fact that guinea-pig tests have proven negative as regards tuberculosis.

The great interest in the case lies in these two points: First, that a suppurating kidney may exist in the body and that the corresponding ureteral eminence in the bladder may not be at all diseased. Second, that long-continued boracic acid vesical injections will and do, in these cases, reduce the intensity of the cystitis to almost *nil*. The diagnosis of a suppurating kidney in all cases like this one must be made by seeing purulent urine exuding from the corresponding ureteral orifice.

In conclusion we may say that in most cases of suppurative inflammation of the upper urinary passages, lesions will be seen at the site of the corresponding ureteral eminence, but that sometimes this sign is totally wanting. The sign, therefore, is not positive.

THE TREATMENT OF HAY FEVER.

BY LORENZO B. LOOKARD, M.D., DENVER, COLO.

The treatment of hay fever must be considered under two heads, — prevention and palliation.

By preventive procedures from 60 to 80% will be rendered immune; by the palliative almost complete relief will be gained by the great majority, comparative comfort by the minority.

In nearly all of the remaining 20 to 40% of those subjected to prophylactic treatment, striking ame-

lioration will result, with fair prospect of complete freedom the succeeding season.

Even after the attack has well begun, a practical cure can be effected in many during the first few days of treatment. By a "practical" cure I mean the possibility of withholding all local sedative applications without relapse.

PREVENTIVE TREATMENT.

The preventive treatment must be both local and constitutional; the one to be undertaken in the fall immediately upon the cessation of the annual attack, the other to be inaugurated some four to eight weeks in advance of the day upon which an attack is expected.

LOCAL TREATMENT.

This may be summarized by saying, "Correct all abnormalities; if none exist, cauterize lightly the mucosa of those areas which are known to be particularly susceptible." In nearly all cases of hay fever some departure from the normal is found, usually in the form of an obstructive lesion.

Bosworth claims that this is the sole condition found in these cases, and while this may be accepted as a general rule, there are numerous exceptions. That a normal mucosa is found in a fair proportion of our cases is well recognized, and during the past season I have had one patient with a high degree of atrophic rhinitis, a condition which the same author says is never associated with hay fever.

He writes: "I have never seen a case of hay fever occur in connection with atrophic rhinitis or syphilitic disease whereby the lumen of the passages was abnormally increased. In all cases which have come under my own observation the lesion has been an obstructive one."

Whatever the abnormality, it must be corrected; if none presents, I cauterize lightly with galvanocautery the mucosa of both turbinates. By this cauterization, if carefully done, it is possible to so obtund the sensibility that nearly all irritants can be inhaled with impunity. This widespread cauterization has been severely condemned by many, but I have never seen other than good result.

Even when the nose appears normal it is frequently possible, after careful search, to locate areas of hyper-sensitiveness, and cauterization of these spots will then suffice.

The treatment of the nose may be delayed until spring if necessary, but when undertaken early a longer period for complete recuperation is afforded and the results are better.

CONSTITUTIONAL.

The general treatment is begun at least four weeks before an expected attack, and is given with three objects in view:

- (1) An increase in elimination and decrease in production of uric acid.
- (2) The correction of any existing neurosis.
- (3) The removal of constitutional or local abnormalities.

An excess of uric acid acts in two ways: first, by being directly accountable for the manifestations of the disease through its local irritant action upon the nasal mucosa, and, secondly, by being one of the most potent factors in the causation of various