

consider to be at the bottom of the trouble, it is very difficult to say. In Case I. my theory is that retroversion took place about seven years ago, accompanied with ovarian disturbance, and these were the cause of the dysmenorrhœa; finally the right ovary prolapsed into Douglas's pouch, and as a consequence rectal trouble was set up. In Case II. the chronic endometritis produced areolar hyperplasia; the uterine ligaments being inadequate to support the enlarged and heavy uterus, retroversion ensued; with the retroversion ovarian disturbance was set up, and as a result dysmenorrhœa and proctitis were developed.

The subject of Case I. is able to do her own housework and keep her husband's books, while before she had treatment she could not be on her feet long enough to get breakfast. Menstruation is still irregular, but it comes on without any pain; in fact, the appearance of the flow is the first indication she has that she is unwell.

AMPUTATIONS AND ARTIFICIAL LEGS.

BY D. DE FORREST DOUGLASS, SPRINGFIELD, MASS.

MANUFACTURERS are constantly called upon to make and adjust artificial legs to stumps where amputation was performed by the "rules" taught in works on surgery previous to the modern invention and great improvements in the construction and adjustment of artificial legs.

The two *professions* should coöperate for the welfare of the patient, where so much is depending upon the point of amputation. It should be the leading thought with the medical profession not only how skillfully can it be performed, but how well the patient can be fitted for the duties and burdens of life, how well the chasm between the natural and artificial can be bridged, how well the adjustment be made where the natural ends and the artificial begins.

The absolute "rule" laid down in the works on surgery—in amputations always to save as much as possible—has had and passed its day of usefulness. It had its origin in the earliest days of surgery, when an amputation was attended with much greater risk of life than at the present time with such great improvements in the practice of the profession.

Previous to the invention and application of artificial legs the loss of a member, or any part of it, was looked upon by the patient as a great affliction, and he enjoined upon the surgeon to save as much as possible, as he feared both the result of the amputation and physical appearance. It was a natural and spontaneous feeling, the growth of surrounding circumstances.

While it may or may not be correct that the longer the stump the less liable to fatal results, there are other considerations which should have weight and influence with surgeons. If the saving of a life is desirable, life should be desirable after it is saved. If through the great kindness and zeal of the surgeon he has saved the life of his patient, and has at the same time entailed upon him a condition preventing him from the enjoyment of the full or partial duties of life, he has saved it, but full of bitterness.

An experience of more than thirty years with patients who have submitted to amputation has shown

this important fact, that the last and most absorbing thought previous to the operation would find expression in, "Doctor, give me the very best stump to wear an artificial leg," showing life a secondary consideration unless made desirable.

I would, therefore, suggest, as giving the best results to the patient, not only immediate but during the subsequent time the artificial must coöperate with the natural member, first, never to amputate through the joint. In these cases the stumps are almost invariably thinly covered at the end; from necessity, the tissues not being abundant, the circulation is feeble, vitality at the extreme end much reduced, and the liability to excoriation is great. The power in using an artificial leg is reduced in the same ratio that the stump is enfeebled or sensitive, and the value and usefulness of the leg enhanced the more nearly we approach the right point of amputation.

It is impossible, in amputations at the joint, to construct an artificial appliance that will so well supply the loss, symmetrically or in durability, as in amputations in the continuity, and never is it so satisfactory to the patient.

Artificial legs are fitted to such amputations because they are presented for treatment, and the patient has walked well. But this proves nothing. Compare these with leg or thigh amputations after two or three years' experience, and the result will be quite different from what would appear at first. Many cases result in a secondary amputation.

We frequently meet stumps showing fine skill in the art of surgery, none finer of the kind could be made, but unfortunately made at the wrong point.

Another and a serious objection is that the space occupied by the remaining portion of joint is required for a properly constructed artificial joint. Both cannot occupy the same space.

Nearly the same objections will apply to extremely long stumps, either of leg or thigh,—feeble circulation at the end, low vitality, danger of excoriation, and therefore slow process of healing. Long stumps are liable to swell at the end, and the artificial leg is required to be made larger at this point to meet the difficulty.

After passing nine inches below the lower edge of the patella, we make no use of the stump either for bearing or propelling power. Therefore as considerations of utility, safety, usefulness, and symmetry in the artificial leg, long stumps are undesirable. The best length of stump for thigh amputation is ten inches, measuring inside from body.

Of course the conditions of injury or disease determine shorter stumps. But the rule stands the same, and the more nearly it can be conformed to the better the results.

In all cases of ankylosis of knee-joint, flexed at right angles, the end of stump should fall one inch back of a line of the thigh. Such cases are well adapted for a leg with bearing on the knee. In these cases a greater length of stump is undesirable, as the perfect outline of the patient when dressed would be broken by a protruding stump.

The most desirable method of amputation, giving the best stump, capable of exerting the greatest power of locomotion, leaving the tissues the more nearly in their natural position and condition, and the least liable to injury or excoriation, is the antero-posterior flap operation.

TREATMENT OF STUMPS.

It will be proper to remark in connection with this subject, that after a stump is well healed — to put it in the best condition for the application of an artificial leg, — it should be constantly bandaged as tightly as can be comfortably worn for four or five weeks. This renders it more conical in form, better adapted to sustain the weight of body on the artificial leg.

These observations and suggestions are the result of, and are based upon, a thorough practical experience of over thirty years in making and adjusting artificial legs to every form of stump.

CASE OF ACUTE DIABETES OF UNKNOWN DURATION; DEATH FROM COMA SEVENTY-TWO HOURS AFTER COMING UNDER OBSERVATION.¹

BY DR. O. F. ROGERS.

THE patient was a rather pale and fleshy gentleman of forty-four years, possessed of abundant means, and previously in good health. His business gave him little labor and no anxiety. His habits were correct. On the evening of the 21st of December, 1882, he was out late and got thoroughly chilled. The next morning he had a sore throat.

On the evening of the 24th he called me to prescribe for his throat and to advise him whether or not to drive several miles the next day to fulfill a Christmas dinner engagement. He was in his parlor when I called, and gave me a brisk and cheerful greeting. The throat was of a dark-red color, the uvula and left faucial pillars were oedematous, and the left tonsil was somewhat swollen. A few herpetic patches were noticed upon the anterior pillar of the right side and upon the velum palati. The lips and nose were liberally strewn with herpes. There was slight dysphagia. The pulse was 120, and rather weak; the temperature 99° F.; the bowels were regular; the appetite impaired. He felt neither sick nor well. I remarked upon the feebleness and frequency of his pulse, and was told that for years this symptom had invariably accompanied a sore throat. I ordered a milk diet, one ounce of gin, and a dose of tincture ferri chloridi every three hours, and recommended him to go to bed.

On the 25th he said he felt better. The pulse was 124, and the temperature 98.6° F. The throat had not materially changed in appearance. He took an abundance of milk, and the gin and iron as ordered.

On the 26th the swelling and oedema of the left side of the throat had nearly disappeared; the right tonsil was now somewhat swollen, and there were several aphthous spots upon the mucous membrane of the gums and cheeks. He remarked that his mouth was dry, and repeatedly rinsed it with water and took frequent sips of milk or lemonade. He was rather restless, and asked for a half dozen things while I sat by him. He sat up in bed and was lively and talkative, and much interested in showing me a beautiful musical toy. He said that he felt better, but he did not look so. His features were drawn and the countenance grayish, and he seemed to have wasted since the evening of the 24th.

¹ Communicated to the Dorchester Medical Club, July 21, 1884.

Though his appearance disquieted me, I could not bring myself to believe that he was seriously ill. Later in the day I sent for a specimen of his urine, though I had not the slightest suspicion of the nature of his illness. The urine was of a specific gravity of 1.035, and contained eighteen grains of sugar to the ounce, and a trace of albumen.

I was informed by his attendants that he had during the past few nights — exactly how many they could not say — filled a chamber-pot with urine; also that he had urinated frequently and largely during the day. He evidently was passing a gallon of urine a day. He made about half his usual quantity of urine and was somewhat restless during the night, and complained of slight pain in his abdomen. His bowels were regular, though slightly constipated.

At five A. M. of the 27th he appeared to be dazed, was incoherent and indistinct in speech, and shortly afterward began to breathe heavily. At seven A. M. he knew and spoke to me, but soon became completely comatose, breathing deeply and loudly but not snoring. The pulse was 140 and weak. He now passed urine for the last time. This gave the so-called acetone reaction with the tincture of chloride of iron.

At ten A. M. Dr. D. W. Cheever, who had attended him in the city, saw him in consultation. He was then absolutely unconscious, and the pulse barely perceptible at the wrist. The breath had a sweetish, hay-tea odor; later on it smelt like fresh ensilage. During the whole day he lay unconscious, never moving, his face pale and skin moist and cool, breathing deeply and regularly and with great force, while the heart beats grew feebler and more frequent.

About a half an hour before death the intervals between the respirations became longer, and finally there was irregularity. Then for the first time cyanosis was observed.

Death occurred at five P. M., just three days after he came under treatment, and rather less than six days from the time of the exposure to cold.

The question of duration of the disease in this case is one of much interest. I believe it was a matter of days and not of weeks. He believed himself to be perfectly well on the 21st December, but there is evidence that he had been passing an unusual quantity of urine for a few days before that date. Three days before his death he had not perceptibly lost flesh, there was but slight diminution of strength, and it was not till the day before his death that his appearance indicated that he was seriously ill. Cases of acute diabetes presenting a history similar to this are very rare indeed.

A knowledge of the early symptoms and the predisposing and exciting causes of coma in diabetes is of prime importance to the practitioner. It is most apt to occur in young subjects and in acute cases. Nervous excitement, exposure to cold, muscular exertion, and constipation are predisposing causes. Frequency of the pulse, restlessness, abdominal pain, and deep respiration are the earliest premonitory symptoms of coma (Foster and Saundby). Sometimes a sudden diminution in the quantity of the urine and fall of the specific gravity have been noticed before the attack. The sudden appearance of albumen is of grave import, though it is by no means necessarily followed by coma.

Pharyngitis and red, spongy gums, associated or not with aphthæ, are sufficiently frequent in the later stages of diabetes to warrant the conclusion that they are a manifestation of the diabetic dyscrasias. There-