TRANSACTIONS

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The President, Richard H. Harte, M.D., in the Chair.

TREATMENT OF FRACTURES.[1]

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Surgery of recent years has advanced in almost all lines, but perhaps most markedly in the direction of the various internal organs. At present, surgical literature is almost monopolized by articles on operations affecting the liver, kidneys, stomach, intestines, and the abdominal viscera generally.

Operative surgery is *the* surgery of the day, and non-operative work has become somewhat ignored. Many of us will recall the days when the subjects of fractures, dislocations, etc., formed a far more important part of one's stock of surgical knowledge than they appear to do to-day. To those of us, however, who have large surgical wards under our care, the importance of fractures should especially appeal. They are as frequent now as they were formerly, and demand the same careful skill and attention if good results are to be achieved. Let us guard against the temptation to devote our attention to

[1] Annual Address on Surgery.

the operative cases and leave the fractures too much to the care of our assistants.

The extremely rapid progress of modern surgery has been largely due to our ability to maintain wounds aseptic since the introduction of Lister's method. The treatment of fractures has been influenced by this method as well as other departments of surgery; hence we find operative measures resorted to more frequently than was previously the case. The other discovery which has been of great importance in fractures is that of the Röntgen or X-rays. It has perhaps hardly met the sanguine expectations first raised, but it has proved of very decided utility.

In addition to the introduction of the antiseptic system and the X-rays, I find but comparatively few advances, and those mainly in the treatment of the individual fractures. Hamilton and Stimson, our old standard treatises, have not been surpassed nor displaced by any more recent publications.

The old battle between the use of plaster-of-Paris and splints is still being waged as industriously as ever. Perhaps a fair comment of present methods would be to say that the profession is hardly as conversant with the dressings at its disposal as it should be.

Bandaging used to be a fine art, but since the introduction of the gauze bandage it seems to have degenerated, and is but little studied. The gauze bandage so readily adapts itself to a part as to conduce to slovenliness in its application. Nevertheless, there is a right way and a wrong way of bandaging, and the right way is still the best.

As regards the use of immovable dressings, such as plaster-of-Paris, I have never been able to content myself to place recent fractures up in plaster and allow them to remain until union is firm. I desire to assure myself by direct inspection, once or twice a week, that the fragments are in proper apposition, and any dressing not allowing this is deemed unsuitable. For this reason, for the first ten days some form of splints is always used. In some cases the tendency to deformity is lacking, and in such fixed dressings can be used as soon as

the acute symptoms have subsided. If there is any tendency to deformity, the case is treated with splints until the deformity is overcome, and then the limb can be put in plaster.

It is the custom of some surgeons to correct the deformity and then immediately apply plaster, with the idea that the plaster will hold the limb in its corrected position. This is not my practice.

Should the displacement show a tendency to recur, the plaster dressing is often insufficient to overcome it. The swelling subsides and the limb shrinks, and the plaster is no longer closely applied to it. If a plaster dressing is used, it should be in conjunction with examinations by the X-rays. By them one is able to see the relative position of the fractured bones and be assured that they are properly placed.

The use of silicate of soda or soluble glass is hardly as common as it deserves to be. It makes a light, firm bandage, and is cleaner and more available than plaster. A physician in private practice can keep a pint bottle of it on hand, which is always ready for use; it does not deteriorate. In using it, it is only necessary to see that it really impregnates the bandage and is not simply smeared on its surface. In preparing a bandage for application, a quantity of the silicate may be placed in a basin and a gauze bandage passed through it and rolled with the hands; the surplus silicate is squeezed out and the bandage is ready for use.

Three or four bandages so prepared suffice for a broken leg. After its application, the hand is dipped in warm water, the bandage smoothed down, and the patient kept abed twenty-four hours, by which time the silicate will be quite hard. It can later be cut open with a stout knife and laced. If it is desired to lace it, it is my custom to have large hooks sewn to two strips of bandage. These are wet with the silicate and placed on each side of the cut. They are retained by a few turns of an ordinary bandage and will be hardened in place by the following day. These bandages can be prepared and kept ready for use covered with silicate in a wide-mouthed jar.

A strip of tin should be laid on each side of the leg and in-

cluded in the bandage, and tends to prevent it wrinkling while being applied and drying. It is better to smooth the outside of the dressing with water rather than silicate, as the bandage dries quicker and harder. The use of starch is also worth remembering. Bandages are liable to slip, and starch adds to their security. Gauze bandages are preferable. On the completion of the bandage, cooked starch, such as is used in starching clothes, is rubbed into its meshes until a smooth, even surface is obtained. This dries in a few hours and holds the turns together, adds greatly to the appearance of the bandage, and increases its stiffness and security. It may often substitute the inconvenient and messy plaster-of-Paris bandage, and obviates the necessity of using adhesive plaster, pins, etc., to prevent the turns from slipping.

Let me urge a trial of this starch bandage; it will be a revelation to those unaccustomed to its use. A neatly applied fracture dressing composed of bleached gauze bandages, into the meshes of which, when the bandage is completed, starch has been rubbed, is a work of art and a thing of beauty. A word on the question of bandages may not be out of place. The old bandage of unbleached muslin has been displaced in favor of the bleached gauze bandage. To neatly and correctly apply a muslin bandage requires both knowledge and skill. I almost regret to say that a minimum quantity of both often contents the surgeon in applying the gauze bandage. The rules of procedure are hardly the same in the two instances. Reverses are not so necessary in the gauze as in the muslin bandage, but it fails to give the firm support of the muslin one. With the muslin bandage, the spiral reverse was the typical form; with the gauze, the figure 8 is the standard. This is made by using figure 8 turns, one partly overlapping the other until the part is covered. Some surgeons use very narrow gauze bandages even for large parts, as the legs; this practice I hardly think is necessary. A two-and-a-half-inch gauze bandage can be used for both extremities, which can be neatly and satisfactorily covered without using a single reverse.

The question of operation in cases of fractures is a debatable one. Now that it is possible to operate almost always without wound infection, operations are justifiable when previously they were not to be thought of. The question of personal equation in the surgeon here becomes prominent. For an operation to be successful, the problems presented by the individual case must not only be skilfully handled, but the procedures must be carried out in such a manner as to insure prompt healing without suppuration.

This means that the technique employed by the surgeon must be efficient. To develop such a technique as will stand the test of the widely differing individual cases without failure necessitates both labor and experience on the part of the surgeon. Practice makes perfect. It is undoubtedly easier to carry out a rigid asepticism in a hospital operating room than it is in the home of the patient, where proper facilities are frequently lacking. For these reasons operations may be performed advisably by the experienced surgeon operating in a hospital that would be inadvisable in a private house by one who operates only occasionally.

The recommending of an operation entails certain definite responsibilities, and we should be prepared to meet them.

Before leaving the question of operation, I might state my belief that we do not operate on simple fractures with unbroken skin with sufficient frequency. Among such are fractures of the neck of the femur in people under fifty-five years; fractures of the upper third of the femur and some of other portions; fractures of the patella and olecranon with wide separation. In some fractures of the leg division of the tendo-Achillis is very useful. In bad fractures of the clavicle wiring is not a dangerous procedure. In elbow fractures, in which ankylosis is unavoidable, a resection will give a movable joint and much better result.

The question of operating is linked with that of failure of proper union. This is due in the larger number of cases to wide displacement of the fragments with the interposition of muscular or fibrous tissues. Hence an inability to sufficiently reduce the fragments is an indication to operate. It is not an

uncommon fault for fractures to be treated conservatively which should have been operated on primarily. Many of the deformities seen to follow fractures are not only unsightly, but often seriously impair or even destroy the usefulness of the member and predispose it, as I have seen in several cases, to refracture. Modern surgery demands better results than were satisfactory in the past. It used to be the custom to practically treat all fractures conservatively and accept the results with proper resignation. This is no longer permissible. If we cannot place the fragments in such a position as to insure a satisfactory result, it is our duty, if the circumstances permit, to do so by operative means. Not only does non-union result from misplaced fragments, but likewise excessive callus. The paralyses and interference with the function of nerves, which not infrequently follow fractures, are often attributed to the nerve being included in and being compressed by the callus. While not prepared to deny that this may sometimes be the case, it is my belief that these nerve lesions are almost always due either to a direct injury of the nerve, usually by the fragments, at the time of fracture, or else to consecutive changes induced in the nerve by its being stretched over the sharp edge of a displaced fragment. This I have verified on several occasions. It is evident that if a nerve is stretched over the sharp edge of a fractured surface, when the callus forms it will of necessity include the nerve. For this reason it by no means follows that, because a nerve is found enclosed in callus, the callus is the cause of the symptoms rather than the injury sustained by being stretched over the sharp edge of bone. These nerve injuries are sometimes attributed to callus because their presence is so often only discovered after the removal of all apparatus and the use of the limb is attempted. It is extremely disconcerting to find, at what one has expected to be the conclusion of treatment, the unexpected appearance of this complication. It is most liable to escape recognition if fixed dressings have been employed early in the treatment of the case. This is one of the reasons that disinclines me to use plaster-of-Paris early in fractures.

In some fractures the immediate results are so disturbing

as to prevent one for some days, and even longer, from ascertaining the full extent of the injuries. It is in these cases that it is particularly desirable to so dress our cases as to enable them to be examined at sufficiently frequent intervals. In some cases even a daily inspection for the first week and twice a week thereafter is not too frequent. Too often the pains of a neuritis are attributed to the broken bones and torn muscles and ligaments, and paralyses are allowed to exist unrecognized until firm union has occurred and use of the member is attempted. The formation of callus presents some interesting features. It is, I believe, due almost solely to the displacement of bone. In other words, the formation of callus is evidence that accurate approximation has not been achieved. I had a case a few years ago which demonstrated this quite clearly.

A man had sustained a fracture of the upper third of the thigh with the customary anterior and outward displacement of the upper fragment to an unusual degree. Operation revealed a spiral fracture about two and a half inches long running upward, backward, and inward.

Traction being made by an assistant, the two fragments were fitted accurately one to the other and fixed firmly in place by two thick silver wires encircling the bone an inch and a half apart.

At the end of the seventh week an incision was made and the wires were removed. Union was found to be firm and the site of fracture was seen winding round the bone as a thin dark line. There was absolutely no thickening nor the slightest indication of any provisional or ensheathing callus. It is evident that in this case the callus which united the broken ends was between the bone surfaces and in the medullary cavity, because there was none external.

The exact approximation of the fragments in fractures of the base of the skull is the reason why callus is also lacking there.

The presence or absence of callus has a marked influence on the functional results obtained, especially in fractures in the

vicinity of joints. If, as has been stated, callus is due to lack of proper approximation of the fragments, it is evident that if a joint is involved and the fragments are not approximated, we must expect limitation of motion. Limitation of motion due to this cause is almost insurmountable. The use of passive motion is usually of no avail, and healing progresses either with a resultant ankylosis or restricted motion. Repeatedly have I seen persistent passive motion practised much to the distress of the patient, with but little or no benefit resulting. It is in these cases that the X-ray is of service. Fractures which involve the joints not infrequently detach pieces of bone, which become more or less twisted out of their normal position, and later become fixed, thus interfering with the motion of the joint. It is not a hopeful practice to endeavor to retain motion by passive movements calculated to push the fragments away; they cannot be displaced far enough to prevent their influencing the joint movements. The condition of affairs having been recognized by the X-ray, it is better to follow the advice of Roberts and others and pin the fragment in place, or deliberately cut down and replace it as it should be, retaining it with wire or other suture material, or even resect the joint.

The recognition of the uselessness of passive motion in overcoming limitation of movements in joints has caused some surgeons to advocate the treatment of fractures of the elbow without it until the splints have been removed and union has occurred.

If the fragments are in good approximation and the joint is kept quiet, the inflammatory effusion and callus is kept at its minimum, and the joint soon limbers up when restraint is once removed. Restoration of function can be hastened by baking the limb. The use of hot air, while serviceable in cases of fracture of healthy limbs, is deleterious in tubercular affections; hence in old cases the possibility of tubercular disease should be carefully excluded.

The question of passive motion is allied to that of massage.

I regret to say that, in spite of the attention of the profession having been directed to the use of massage in fractures

many years ago, it still is not employed as much as it should be. This may be due partly to a distrust aroused by the extensive claims of some of its most ardent advocates, as Lucas Championnière and others.

Personally, while occupying a middle ground, the stand I take is none the less a positive one. I cannot follow those who treat fractures from the first by massage only without support. To my mind, the first principle in the treatment of fractures is that the two broken ends of the bone should be placed and held in as close approximation as possible. That this can be accomplished better with than without splints is at least my opinion. Even the ordinary movements of the body tend to disturb the fragments, and unusual movements, such as one is constantly experiencing, disturb them still more. The fact that fractures, such as those of the patella, radius, etc., frequently unite with little or no support or protection, is no proof that they should not have been afforded both. There are few cases, indeed, where a fracture would not be benefited by a proper support skilfully applied. It need not always be elaborate; a fractured leg is sometimes best treated and most comfortable if allowed to rest for a day or two folded in a pillow. The use of splints is not incompatible with massage. As regards the time of its use, in many cases it can be commenced at once as soon as the fracture is seen. A light stroking "effleurage" of a recently injured limb need not cause pain, but rather be grateful to the patient, and tends to restore the circulation and promote the absorption of effusion. Its efficacy depends on the manner of its administration; anything approaching roughness is obviously unsuitable in cases of recent injury; and if real pain is experienced it is evidence that the massage is either unskilfully administered or that it is unsuitable to that case, and most likely the former.

It is true that there are some cases in which the local injury is so great in simple fractures that the treatment should be of the simplest character, such as the use of evaporating lotions; cases in which there is much bruising of the skin may be of this character. After the first reaction has passed, say in a couple of

days, there is no longer any excuse for delaying massage. I regret to say that it is still too much the custom to use fixed dressings, which are allowed to remain on the part without removal for several weeks. This may promote the healing of the bones, but it does not tend to restore the soft parts to their normal functions. The worst effects of this treatment are seen in fractures of the leg. When the upper extremity is fractured, the patient rarely requires to be admitted to the hospital; but a fracture of the lower extremity interferes with locomotion, and consequently it is admitted for treatment in the wards. In order to make room for new patients, the temptation is great to put fractures of the leg up in plaster-of-Paris dressings and allow the patient to leave the hospital on crutches. When, after the lapse of several weeks, the plaster dressing is removed at the out-patient department, it is usually found that, while the bones themselves have united firmly in a fairly satisfactory position, the leg and foot are swollen, œdematous, and stiff. The slightest attempt at movement causes pain. If now the case is left off and the patient allowed to go around, it is often weeks or even months before the muscles, tendons, ligaments, and soft tissues generally have become loosened sufficiently and restored to their normal condition to allow of painless locomotion. This is needless. Suppose the patient had remained in the hospital and been treated with the old-fashioned fracture-box; and that each morning the sides of the box had been lowered and the soft parts gently massaged and, as healing progressed, the joints gently moved, we would then by the time that union had taken place have restored the normal condition of the soft parts and the leg would be ready and in fit condition to resume its functions. It is *prima facie* evidence of inefficient treatment when one is compelled to institute an elaborate further course of treatment to overcome effusion and stiffness after complete union of the bone has taken place. The frequency of the massage depends on the individual case. In some twice a week will suffice, but in others daily massage is necessary. It is true that to give fractures this amount of attention will consume much time. This is so; but it is the only proper way to treat

fractures, and when not carried out results in delayed convalescence and deprivation of the use of the injured member.

Limitation of movement may be the result either of displaced fragments, as already alluded to, or to inflammation and effusion in the soft parts. It is to this latter condition that massage is particularly applicable.

The primary treatment given to fractures varies with different surgeons. Many have wet applications applied; lead water and laudanum is a great favorite. Their importance seems to me to be overrated. Some have a habit of applying lead water to every case, and covering it with oiled silk or other impervious material.

This can hardly be necessary. Routine treatment is, and of necessity must be in many cases, bad treatment. Individual cases vary.

One frequently encounters cases in which there is little or no displacement, and which undisturbed give the patient no pain. What object is to be gained by wet applications in such cases is hard to see. They can be rendered perfectly comfortable by applying a nicely adapted and padded splint with gentle compression by a neatly applied bandage. Using a thin layer of cotton over the part under the bandage will be more acceptable than a moist dressing.

The use of wet dressings I am inclined to believe favors the formation of blebs by macerating the skin, and on that account are objectionable. In some cases, where redness and pain are prominent, some soothing application is of advantage; and here occasionally some form of wet dressing is desirable, and seems to add to the comfort of the patient and to aid in allaying the inflammation.

A favorite application is lint or gauze moistened with equal parts of glycerin and water. If the leg is the part involved, as is usually the case, the dressing is simply laid on its surface, and perhaps a light ice-cap added. In many cases a plain towel laid on the limb with the ice-cap is all that is necessary. No impervious covering is to be used.

The question of the extent to which it is desirable to use

ambulatory dressings occupied the attention of the profession some years ago to a greater extent than it does at present. That it is possible to treat fractures even of the thigh with a certain degree of success without confining the patient to bed has been amply demonstrated, but the method, even as applied to fractures of the leg, has not been found desirable. It is possible to do many things which it is inexpedient to do, and this is one of them. In stating this, I do not mean to say that ambulatory dressings are never to be used. On the contrary, the surgeon should be familiar with the method, so that when proper cases present themselves it may be utilized.

The method is only intended for use in fractures of the lower extremity, and one of the objections to it is the swelling and pain which arise when a recently fractured limb is placed for any length of time in the upright position. In fractures of the leg, when there is but little tendency to displacement, patients can, not infrequently, be induced to go around early in a fixed dressing and crutches.

I have made quite extensive use of silicate of soda or plaster dressings in which is incorporated a piece of strap iron which passes down one side of the leg and up on the other, being allowed to project about three inches beyond the sole. With a high shoe on the opposite foot and crutches the patient can go around with a considerable degree of safety. To make an efficient ambulatory apparatus that can be removed for purposes of massage entails considerable trouble, and the temptation is to allow the dressing to remain intact until consolidation of the bones is completed. For these and other reasons the method is only to be used in those cases in which it is impossible to retain the patient in the wards of the hospital, or where for special considerations one is willing to devote an unusual amount of time and trouble in order to obtain certain desirable objects.

When the thigh is the bone involved, if the fracture involves the shaft or upper extremity, the method is practically undesirable.

In fractures low down near the condyles, particularly in children, some form of orthopædic appliance, such as the hip splint of Thomas or Taylor, can be successfully used; but children are usually not pressed for time, and adults commonly prefer the comforts of a bed to the discomforts of a splint and crutches. Nevertheless, it is our duty to know what can be done to enable patients to get around early; and, if the necessity for an employment of the method arises, we should be able to give our patients the benefit of the treatment.

DISCUSSION.

Dr. W. W. Keen took exception to the writer's commendation of the use of silicate of soda or starch as primary dressings. They will not hold the parts in place until the dressing hardens, and hence allow displacement of fragments. Dr. Davis had also spoken of plaster-of-Paris dressings, but did not specify the mode of their application. If applied simply by circular turns, then they are open to objections, such as interfering with proper cleansing of the parts, massage, etc. If they are applied as splints, they can be used as a fixed dressing, and still be removed to allow of access to the parts. Dr. Keen has recently seen a new form of plaster splint, his attention having been directed to it by Mr. Rebman, of London. It consists practically of a bag one metre in length and from two or three to five or six fingers wide. This is impregnated with plaster, a mesh passing down in the centre to give stability. One can take any amount, six inches to two or more feet, put it in water, prepare it properly, and apply as a splint. It adapts itself readily to the surface with which it is placed in contact, and thus furnishes a reliable support. This splint is the idea of Dr. Sahli, of Berne. Dr. Keen was glad to hear Dr. Davis speak words of caution regarding the injudicious use of passive motion in the treatment of fractures. In his early career he had under his care cases of Colles's fracture in which he wished to employ passive motion. This he did by flexing the fingers until the hand was made into a fist and then bending the wrist. If any one will try this manipulation, he will readily see what a small amount of flexion of the wrist can be given without causing pain even in a normal hand. If the fingers are straightened, the wrist can be flexed to a right angle with no pain. The

surgeon too often forgets the normal limit of movement when he is using passive motion in a fractured limb.

Dr. Oscar H. Allis said that Dr. Davis had in his address furnished enough material for a half-dozen or more papers. Any one point, such as treatment of fracture of the thigh or elbow, or massage in the treatment of fractures, would have been sufficient for discussion. He wished to speak regarding simple fractures of the femur. These fractures may be produced in one of three ways: (1) when the force is exerted at right angles to the long axis of the bone; (2) when the force is parallel or in the direction of the long axis; (3) by twisting. In many instances there is an independent fragment of bone. In oblique and especially in spiral fractures where the forces meet there will be found towards the central part of the bone one or more small fragments. In the X-ray we have a valuable adjunct in making a diagnosis. If the surgeon will make use of this and find the exact condition of the injured part, he will enter upon his work in caring for it with far more assurance. It is too true, even lamentably true, that surgeons do not often enough open joints when dealing with fractures that extend into them. In the case of fractures into the knee-joint, the semilunar cartilages may be torn or twisted out of their place, or the crucial ligaments be torn and form practically foreign bodies. Even if the fragments are brought together, there is often a lack of good results in these cases, because the torn structures are pinched between the bones. It should be almost an axiom in fractures involving a joint to open and remove any spicules that may be present. The prevention of angular deformity following fractures of the upper part of the femur is one of the most difficult problems in all surgery. When the fracture is oblique and can be wired above and below, fixation is possible. When the fracture is transverse, deformity is almost sure to follow even when wiring is resorted to.

Dr. Davis, in closing, said that it was a very difficult question what to include and what to exclude. He had avoided the discussion of individual fractures and confined his address to the consideration of principles. Regarding Dr. Keen's reference to silicate of soda and starch, he thought there was a misapprehension, as he had not intended to advocate their use as primary fixed dressings. The silicate of soda takes twenty-four hours to harden, and is not immediately adapted to hold bony fragments

in position. At the end of ten days, when the parts are fairly firm, this dressing may be used. Starch is not so firm as the former, but helps to keep the turns of a bandage in position and prevents slipping. When plaster-of-Paris is used as detailed by Dr. Keen, it resembles an ordinary splint.

RHINOPHYMA.

REPORT OF A CASE, WITH OPERATION FOR ITS RELIEF.

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F. W., aged sixty-five years, a tailor, was admitted to the Jefferson Medical College Hospital October 26, 1903. His family history is of no importance, excepting that no case of tuberculosis or of malignant disease is known to him. He himself never suffered from the diseases of childhood, but thirty years ago he had an attack of smallpox. He denies venereal disease. He was discharged from the German army in 1862 owing to the fact that he had convulsions at times. These came on eighteen months after he had enlisted, and were irregular in their occurrence. He has had none for over a year. There is no history of injury to his nose.

Fifteen years ago he had what appears from his description to have corresponded to an attack of acne rosacea, when his face became reddened with a marked eruption of small pustules. His entire face soon became involved, but the brunt of the attack was on his nose and over a considerable adjacent area of each cheek. The face improved, but the nose got worse, and began slowly and gradually to enlarge. It has not interfered with his breathing, but has seriously interfered with his eating. He cannot take any liquid, for example, soup, in a tablespoon without lifting his nose upward out of the way. The nose is painless. It is apt to bleed a little in the morning, owing to his rubbing it in washing his face.

On admission, a very large growth appears to involve all the nose except the upper quarter. The growth is very lobulated, with deep fissures between the lobules, the larger mass being on the right side. It is firm to the touch and, if one may judge from the color, would seem to be highly vascular. The

alæ of the nose are particularly thickened (Figs. 1 and 2). Urine normal.

Operation, October 28, 1903, under ether. I excised the central portion of the growth from the upper margin of the diseased area down to the tip of the nose by an elliptical incision, the long axis of which corresponded to the bridge of the nose. I then sutured the edges. The pressure of my finger in suturing the lobules of tissue squeezed out from the ducts of the sebaceous glands a number of columns of sebaceous matter, commonly known as "worms." On the alæ of the nose, as it was impossible to obtain a suitable ellipse, I contented myself by simply shaving off all the hypertrophied tissue. The hæmorrhage was not severe; not a single vessel had to be ligated. A few clamps applied for a few minutes and the sutures checked the hæmorrhage almost entirely, and a little adrenalin solution applied on the raw surface where I had shaved it completed the hæmostasis. Between the dressing and skin a bit of gutta-percha tissue was placed so as to prevent adhesion of the dressing to the wound, which would retard the cicatrization.

He made a perfectly smooth recovery from the operation.

On November 4, one week after the operation, a little further paring of the alæ of the nose, so as still further to improve its appearance, was done. On December 12 another operation was done, inasmuch as the second operation left a slight fissure between the ala and the tip of the nose on the left side. The edges of this were pared and approximated by a few sutures. December 17, five days later, these silk sutures were removed. The photographs showing the result of the operation were taken on December 21 (Figs. 3 and 4).

The operation on November 4 was done without any anæsthetic, as it was very slight and he suffered relatively little pain. At the third operation, I infiltrated the nose with a little β-eucaine and adrenalin, but the infiltration was not successful in allaying the pain. At the end of this little operation he had a brief, but marked, general convulsion, during which he seemed to lose consciousness.

Professor Coplin, to whom the specimen was sent, reports that the "histologic examination shows the majority of the sections to be composed mainly of fibrous tissue, a part of the border

being formed of stratified epithelial cells, such as are found in normal skin, though the layers of cells are rather fewer in number than is usually found. The corium and subcutaneous tissues are directly continuous with, and similar in structure to, the deeper parts of the sections, which are composed of fairly loose, cellular, fibrous tissue containing numerous lymph spaces and blood-vessels. The fibrils of this tissue are exceedingly wavy and irregularly placed. A very conspicuous feature of the sections is the sebaceous glands, which are greatly increased in size and in some areas apparently in number, presenting in the latter instances an adenomatous appearance. Around some of the infoldings of the skin are quite dense accumulations of small mononuclear cells.

"*Diagnosis.*—Soft fibroma of the skin with distention of the acini, and possibly a hyperplasia of sebaceous glands."

Remarks.—This is one of the most marked cases of acne rosacea terminating in a true rhinophyma that I have ever seen personally. In the *Beiträge zur klinische Chirurgie*, Band xxxix, Heft 1, von Brüns gives some excellent illustrations, some of them colored in a very lifelike manner, of this condition. The photographs of the present case show, without, however, the advantage of color, the condition before operation, and how successfully the patient was relieved from not only his deformity, but of a serious disability so far as his mingling in social life was concerned, especially at meals, for no one likes to eat at table with another person when the latter has to lift his nose out of the soup with each spoonful.

In some of these cases surgeons have been deterred by the fear of hæmorrhage, which the experience of von Brüns and the present case show is not well founded. The result of the operation was all that could be desired, as the photographs show.

My experience in this case would lead me to suggest that it is desirable, in case the entire skin is not removed and the edges sutured, but the skin shaved off, that this shaving should not go entirely through the skin. In only one place towards the tip of the nose on the left side did I shave away the entire thick-

ness of the skin. At this point there is distinct scar tissue. In other parts of the nose, where I only shaved one-half or two-thirds through the thickness of the skin, there is a cutaneous surface which, though not entirely normal, is much better than the scar tissue.