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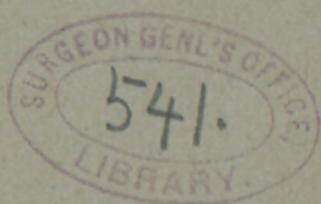
WASHINGTON, D. C.,

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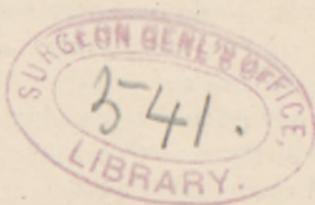
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SEVERE PAIN AND SPASM OF
INFLAMMATORY RHEUMATISM OF THE ANKLE
RELIEVED BY IMMOBILIZATION OF THE JOINT.

By A. R. SHANDS, M. D.,

WASHINGTON, D. C.,
PROFESSOR OF ORTHOPÆDIC SURGERY,
MEDICAL DEPARTMENT OF COLUMBIAN UNIVERSITY.

HAVING read the very interesting and instructive paper on the treatment of Sprained Ankles by Dr. V. P. Gibney, of New York, published in the *New York Medical Journal* on the 16th of February, 1895, it occurred to the writer that it might be of interest to the profession to know of a most excellent result recently obtained in a very severe and painful case of inflammatory rheumatism of the ankle and foot by applying the method of treating sprained ankles, as advocated in the paper above referred to, together with complete immobilization of the joint by means of a plaster-of-Paris case.

On November 18, 1894, I was consulted by Dr. S. C. Busey, of this city, regarding a case of inflammatory rheumatism of the ankle and foot that was under his care, and which up to that time had baffled all attempts to produce any permanent relief of the pain and spasm about the offending joint.

The patient, a physician of middle age, was attacked with

rheumatism, soon localizing itself in the left ankle and foot, five weeks previous to the consultation. He had had a very thorough course of treatment, consisting of the usual antirheumatic remedies, with little if any amelioration of the most distressing symptoms—pain and spasm.

Still the foot and ankle continued to swell, pain and spasm to increase, until at the time that I first saw him the foot was at least one third larger than its fellow. Pain was excruciating and had only been relieved by morphine, while all the muscles of the whole limb could be easily thrown into a state of clonic spasm by the least attempt of passive motion of a single toe, or by the least jar to the patient's bed. So easily was this condition of clonic spasm produced, and thereby causing excruciating pain, that the patient dreaded the approach of any one toward his bedside; he would at once begin to remonstrate with any one who attempted in any way to move or change the bed-clothes. He had remained in one position until there was marked tenderness about the most dependent points of pressure on the side of the body with the lame foot.

All the normal depressions about the malleoli were obliterated, and, as the swelling extended from about two inches above the malleoli to the tips of the toes, the arch of the foot presented very much the appearance of a typical flat foot, which did not exist, however, for after the swelling had subsided the arch of the foot was found to be perfectly normal. Upon close inspection there was found to be but very little synovial fluctuation, and that just under the internal malleolus. It was plainly seen that the swelling was due to œdema and infiltration of the peri-articular structures caused by the rheumatic inflammatory process, which had at that time continued unabated in spite of the very thorough medical treatment above referred to.

The next most prominent feature of this case was the very marked atrophy of both calf and thigh muscles of that limb. This case illustrates to my mind most beautifully what is called by Sir James Paget "reflex atrophy," being caused by disturbance to the trophic centers by the reflex spasm. The atrophy in this case could in no way be accounted for from non-use of

the limb, for the patient had been confined to bed from the first.

The temperature of the patient had averaged daily from 100° to 102° F.

Upon inspection I at once concluded that this was a case that would be benefited by strapping the foot and ankle with strips of adhesive plaster after the manner that is used at the dispensary of the Hospital for the Ruptured and Crippled, New York, as advocated by Dr. Gibney in the paper above referred to. This method I had seen give most excellent results during my connection with the staff of that institution.

This treatment was at once suggested, together with immobilization of the foot with a plaster-of-Paris case, and was readily agreed to by both the patient and his physician. The strips of adhesive plaster were applied by starting the first one from the plantar surface of the base of the little toe and carrying it diagonally across the dorsum of the foot, ending it at the outer border of the heel. The second strip was started from the plantar surface of the base of the great toe, carrying it likewise diagonally across the dorsum of the foot, ending it at the inner border of the heel. This was continued, overlapping each strip about one half with the next one in order, until the whole foot and ankle were incased. Over this was applied a cheese cloth bandage, next there was applied a thick layer of absorbent cotton extending from the tips of the toes to the tuberosity of the tibia, then a cheese cloth bandage over the cotton; then finally the application of a snugly applied plaster-of-Paris case, extending from the tips of the toes to the tuberosity of the tibia, completed the dressing.

This dressing was applied about the middle of the afternoon; that night the patient, fearing that the local dressing would not give the much desired relief, took a small dose of morphine, which, with the perfect rest afforded the foot, produced an excellent night's sleep. The next day he was very comfortable, being able to turn about in bed, a thing that he had not been able to do for several weeks. The second night after the foot had been immobilized he had a perfectly comfortable night's rest without morphine. Late in the afternoon of the

second day I had a note from him, saying that his foot seemed loose in the plaster-of-Paris case, and that the pain and spasm had returned, but in a mild degree as compared with that of two days previously. About eight o'clock that evening I found just the state of things he had described in his note—foot loose in the dressings, and that there was a return of pain and spasm. This condition of affairs, I was quite sure before touching him, was due to the fact that, under the equable pressure that had been afforded the œdematous and infiltrated tissues by the adhesive plaster strapping, the swelling had subsided, and that the plaster case was no longer affording support. At once it was decided to remove all of the dressings and apply another set to fit the foot snugly in its changed condition; the patient did not agree readily to this, his extreme modesty (?) causing him to insist that he did not wish me to have so much trouble on his behalf; but to my mind it was clearly a case on his part of being satisfied with doing well as compared with two days previously; the true reason was, he dreaded my handling the foot, fearing the pain would return.

After all the dressings were removed the foot was found to be but very little larger than its fellow; it truly seemed wonderful that so much œdema and infiltration could have disappeared in so short a time—just a little over forty-eight hours. An entirely new dressing was applied as above described; that night the patient rested well, on the following day was able to sit up, and on the fourth day was able to get about the house on crutches. The second dressing was allowed to remain on one week, when it was removed, and, as all pain and spasm had disappeared, it was not renewed, but instead there was applied a circular stockinet bandage to the foot and leg, and the patient was instructed to use the foot in locomotion as much as he could without causing pain. From this time on there was a rapid and uninterrupted recovery, and in one week patient called at my office, when there was found some pain on passive motion about the medio-tarsal joint, but this gradually wore away under the influence of gentle massage and passive motion, and very soon thereafter the patient was able to resume his duties—that of a busy gynæcologist.

It should be mentioned that while the patient had been having a daily rise of temperature ranging from 100° to 102° F., after this dressing was applied the temperature never went above normal, no other antipyretic being used.

While the treatment of acute articular rheumatism by immobilization is not new, yet I do not believe it is in very general use. I have been unable to find a report of any cases thus treated. Professor Osler, in his *Practice of Medicine*, speaks of having seen very excellent results obtained in this very painful affection by German physicians from the use of immobilization by means of plaster of Paris. So far as I know no one has used the method of strapping the joints with adhesive plaster in connection with the plaster-of-Paris case. This is undoubtedly the most perfect way of obtaining absolute rest for the inflamed joint, and at the same time aids the absorption of the pathological secretion.

To be sure of relieving the spasm it is necessary to extend the dressings up to the popliteal space, for in this way you put at perfect rest all the calf muscles. Some who have not had an extensive experience in treating diseased joints may fear producing some degree of ankylosis by thus immobilizing joints; on the contrary, immobilization during an acute inflammatory process will limit any tendency to production of ankylosis. Rest to a joint will not produce ankylosis; the product of an inflammatory process is what produces ankylosis; therefore it must follow that anything that will cut short the inflammation must limit the ankylosis. It is a well-recognized fact in surgery that all wounds heal more kindly and rapidly under perfect rest.

The explanation that Dr. Gibney gives of the theory of this method of treating sprained ankles—viz., “the equable support given to the tendons and ligaments about the

joints results promptly in the resolution of all effusion"—is surely the correct explanation, as is well evidenced in the case here reported.

Accepting this theory, I think all who will apply this method of strapping joints affected with acute rheumatism accompanied with pain and spasm, and then give perfect rest by means of a plaster-of-Paris case, will be rewarded with excellent results. This treatment in the early stage of the disease should be regarded as supplementary to the proper medical treatment.

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FRANK P. FOSTER, M.D.

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