

DISSERTATION ON THE USE OF BLISTERS  
IN DISEASES OF THE ARTICULATIONS.

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HAVING been requested by the Counsellors of the Massachusetts Medical Society, to prepare a discourse, to be read at this meeting, on any subject connected with the views of its Institution, I have selected a few cases, which I have considered of importance to the younger part of the profession, to offer you.

THESE cases are of diseased joints, of the lower limbs, particularly of the knee, ankle, and hip, sometimes denominated white swelling, &c. which have been immediately under my care. This disease in former times, usually proved fatal to the life or limb of the patient, and even at the present day, no doubt, is often so, under the common treatment. To these cases I have subjoined some observations of two English surgeons of high estimation on the same subject.

THE first case that occurred to me was in the year 1779. Being young in the profession, and the subject a particular friend, I paid him all possible attention. I consulted the most skilful elder physicians of the

town, and followed implicitly their advice, with little hopes of saving the limb. I received from those gentlemen no encouragement. The knee was the joint affected.

THE first complaint was a colourless swelling without any previous injury or pain. It continued for several months. The applications were cold water affusions, and saturnine preparations, which produced no permanent effects. A weakness of the joint ensued, attended with pain when moved. Every application was made, as the different symptoms occurred, that were suggested from any respectable source, without the least success. The heads of the bones, according to the opinion of that day, were denuded, and it was considered a white swelling which was incurable.

IN consequence of relief, by the application of a blister as near the part affected as possible, to another patient with a violent pleuritic inflammation, I proposed the remedy to my patient, who was prepared for any thing but the loss of his limb. This being then *to me* a new mode of treating such a disease, I again consulted my medical friends, who advised me to lose no time, as no evil could result from the trial.

HAVING determined on this application, I covered the joint with a vesicating plaster of cantharides, except the ham, and for several days dressed it with cerate filled with powdered cantharides. The scarf skin was perfectly denuded. The pain in the course of ten days abated very considerably, which to the patient's feelings had principally been in the centre of the joint. He was able within a month from the

first application of the blister, to bear his weight without uneasiness. I suffered the blister to heal in part, after the pain had subsided, keeping the vesications open, only round the inferior and lateral parts of the patella, which were continued several weeks. An issue was placed on the inside of the leg, about four inches below the joint, and another on the inside the thigh, at the same distance. These were kept open several months, till the irritation of the issue on the thigh became troublesome; it was then discontinued with the vesications round the patella. The issue on the leg was continued for more than a year.

WHEN the joint had recovered its usual strength, the swelling had principally subsided, except the condyles of the femur, which gave a fulness to the joint, by a prominent enlargement which still continues. The knee I have compared with the other within a few days, and find it measures between one and two inches more round it; no part of the joint appears to be enlarged, except the condyles of the femur. A slight lameness continued for several years, which was from habit, rather than any defect in the joint. After the expiration of the first year, he experienced no inconvenience from the former disease.

THE next case that came under my care was in 1787. A young lady from the country had sprained her knee by a fall on the ice; she concealed it a long time through delicacy, but finally had it examined. The result gave her little hopes. She next applied to several empirics successively, each of whom promised what he could not perform. When I first saw her she was emaciated, in extreme pain, and

could obtain no rest but by opium. Her leg was fixed, making an obtuse angle with the thigh, the patella immoveable, the condyles of the femur were much enlarged, but no appearance that threatened ulceration.

HER friends delivered her into my care, with a request to consult with several of the most experienced physicians of the town, whom they named. These gentlemen visited her separately, and concurred in the same opinion, that the heads of the bones were denuded and much enlarged, that nothing could save her life but amputation, to which she pledged herself particularly to one of them, she never would submit. This gentleman asked his medical friend's opinion, who visited her with him, and who had returned but a few weeks before from the hospitals in London, what course would be pursued in England with such a patient. He replied that he had seen several such cases in the different hospitals, that they were always considered desperate, and that no method was thought of but amputation to save life. I proposed the plan of severe external vesication, but it was considered of no use by every gentleman, except the president of this society, and my friend Dr. Wier, who assured me he had cured one patient in Halifax by a similar practice. Electricity was recommended, and a fair trial was given; but the motion it excited gave exquisite pain without any relief.

AFTER these consultations, and trying electricity, I immediately proceeded with the vesications, much in the same way as in the first case. The vesications were continued completely round the diseased part of the joint, by dressings covered with powdered

cantharides, for several days, before she complained of the pain, or before the internal pain of the joint subsided, so far as to make her susceptible of the external irritation, which after ten days became so severe that I was obliged to reduce the vesications, and finally to confine them to the sides of the patella. At this period, that is in ten days, she could bear her leg to be moved, and in a few days she was able to draw it up, and stretch it out without assistance, to the bent state in which it had been fixed, to bear some weight without pain, and sleep without opiates. I attempted caustics in the leg and thigh, but she was so much debilitated, that an appearance of sphacelus immediately took place, which caused me to desist, and to prescribe bark and wine, as all symptoms of fever, which for a long time attended her, had vanished. Within thirty days she was perfectly at ease, as she considered the small vesications of no consequence, and returned to her friends, where she strictly pursued the advice I had given her in writing. In eight months she found herself perfectly well; that is, as she informed me many years after, from that period, she had not been obliged to pay any attention to the limb, but continued with it bent, which could be no more straightened than when I first saw her. The patella remained immoveable, and the condyles of the femur considerably enlarged. She walked with the aid of a cane with perfect ease to herself, and enjoyed good health.

THE next case that occurred in my practice, of any importance, or that I had in my power to control, was my son, in 1802, and was a case of the ankle.

A FEW weeks after recovery from a severe sickness, he took the measles, which very much reduced his strength. A swelling of the right ankle was perceived by his mother without any known cause. I considered it as only an effect of general debility, and directed friction and cold salt water bathing, with saturnine applications for several weeks; no change appeared, and he attended his schools without uneasiness. About three months after the swelling was discovered, he complained of pain in the joint after walking. I immediately consulted with the president of this society, who considered it still a case of debility, which might be removed by attention to his motions, and astringent applications, which I used; such as affusions of cold water, and poultices of oak bark, &c. This practice was invariably pursued for six months; during this time he was confined to the house, and principally to his bed-chamber. The applications appeared to be useful. The tenderness of the joint, and pain on bearing his weight seemed for a time to have subsided, but the enlargement continued: the thigh and leg were much diminished in size. After this period, with the same applications and precaution, he began to complain of pain and great tenderness in the joint when moved. I became alarmed more seriously than before, as he had recovered in other respects his strength. I consulted with the President on the severe vesicating application. We concluded to defer it a few weeks longer, but without any effect for the better; and having satisfied his mind, that nothing else would save his leg, and perhaps his life, than to pass one year in pain by a continued blister, I covered the ankle round with a

vesicating plaster, and dressed it every day with powdered cantharides for the first ten days. Afterward I reduced the vesications to the four cavities, formed by the Tendo Achilles and the heads of the bones, on the back, and by the same heads, and the tendons of the instep, before. Within thirty days the pain and tenderness of the joint completely subsided, and he was able to bear his weight without uneasiness; but the enlargement continued for nearly twelve months, and then partly subsided, leaving the heads of the bones, that is, the inner and outer ankle, apparently in a healthy state, though considerably enlarged, which continues to this day. He was able to move the joint and take his accustomed exercise as firmly as with the other leg, but from his sufferings had become very cautious in the use of that leg. I continued two of the ulcerations fourteen months from the first application.

AFTER a few months Dr. Warren informed me of a recipe for making an ointment to continue ulcerations, when desired, without the offensive discharge produced by cantharides, or strangury, and equally efficacious, which was the leaves of the Sabina made into an ointment, with hog's fat and bee's wax. Knowing the shrub called by that name in the country, I procured it and made the experiment without being satisfied with its effects. I then tried the leaves of the red cedar, commonly called savin, with a braided leaf. The leaf of the other is flat. I found the cedar ointment answered every description given by the English writer. It evidently caused more pain than the cantharides, and continued to act longer.

It produced less discharge, but kept up a continued white slough, without any offensive smell or strangury. My son's leg, after remaining well five years, has not yet recovered its size, and the ankle continues much larger than the other. The past winter he has attended a dancing school, and worn boots, without perceiving any difference in his ankles with respect to strength.

IN August 1805, D. B. a boy of about twelve years old, complained of pain in his knee, thigh, and hip, without any known cause; a slight lameness ensued, and was supposed by his mother to be rheumatic. She covered the limb with flannel, and gave him in small quantities Tinct. Gum Guaiac. The pain increased principally in his hip, which became so extremely sensible, that he could bear no motion of the thigh, and soon began to walk on his toes to favour the limb. I was called to visit him when his mother gave this account, which was nearly four months from his first complaint. I found the limb shortened from four to five inches, the pelvis distorted, the parts surrounding the joint tense and painful when touched. The joint had the appearance of dislocation, without any formation of matter. From the deep situation of the hip joint, and its appearance in this case, I considered it the most desperate that had fallen under my care, and communicated my opinion to his parents. They were unexpectedly alarmed, and agreed strictly to follow any directions that should be given. My first prescription was a stream of water as warm as was pleasant to the patient, poured on the joint, with a view of relaxing the tense integuments. This was pursued for several



days, without any other effect than ease during the application. I next advised a vesication over the joint, with a caustic below it, without any sanguine expectation from the nature of the joint and its deep seated affection. I explained to the friends that my opinion was in favour of passing a seton into the thigh, as near the joint as could be done with safety, as the only means to save his life. Amputation, or any other operation into the joint, was out of the question. The blister and caustic were continued for some time with little effect; he could not move his limb without excruciating pain, and his leg became much swollen and œdematous; he obtained no rest without the aid of opium. I desired some other gentleman of the faculty might be called in for consultation, and recommended Dr. Warren; and prepared for a seton, if he approved of it. I explained all I knew of the case, and of my treatment. He agreed that it was expedient to pass the seton, which was immediately done, as deep as possible, and as near the great trochanter as was considered safe, on account of the joint. Our expectations of a cure were very inconsiderable. The first day of February the seton was introduced, and as soon as the inflammation from its introduction had subsided, it was moved every day; and the silk, before it was moved, was charged with powdered cantharides, after being cleansed with warm water. It remained in the thigh before it was wholly consumed five months. He was constantly kept in that posture which was the easiest. The pain in the joint and the tenderness began to abate at the end of the first month; and in July he was able to bear his weight without pain; but

could bear no lateral motion for several months. With the aid of a crutch and an high heeled shoe, in autumn, he could walk the streets perfectly free from any uneasiness; and at this time has recovered his usual strength in that limb, though shortened and distorted about the pelvis, which will probably always remain. After the seton was worn out, I caused two ulcerations to be formed and kept open with the savin cerate, for about three months, on the sides of the enlarged joint. The restoration was slow, but appears to be perfect. He is in a store, in this town, and as able to do the business of it as any young man of his age.

IN every case of diseased joints, that have fallen under my care, from experience in the first case, I have considered twelve months strict attention requisite to complete the cure, which I have explained to the patient, or if a child, to his parents; and that without a cure the loss of limb or life must ensue. This I would recommend to every medical man. Without this full explanation, and an agreement on the part of the patient, I would never advise the severe external stimulating process; but where the parties will pursue the directions with resolution, and no appearance of matter having been formed, I have the highest confidence in the practice. During the stages of inflammation, which sometimes occur, an application of leeches and saturnine preparations is certainly adviseable; after which, if the joint continues swollen, with pain and debility, I think no time ought to be lost in pursuing the stimulating process.

MR. JAMES RUSSELL, of Edinburgh, surgeon to the infirmary of that place, wrote a treatise on the principal diseases of the knee joint, and published it in 1802, in which he relates successful experiments of his own, of external irritations, particularly with cantharides, which gave Mr. Cooper, according to his own acknowledgment, the first hint to pursue this practice. Mr. Russell observes, that patients under an incipient attack of white swelling, first experience inconvenience in walking, from the weakness of the joint, which is particularly felt after exercise. As soon as the pain becomes constant, to save the limb from uneasiness, the patient begins to touch the ground with his toes, which causes the knee to become bent; afterwards this posture is frequently permanent from other causes. The distention which the skin suffers from the increase of the swelling, gives to the whole surface of the joint a smooth and shining appearance, and often seems to consist of a fluid collection, which, however, arises from an accumulation of soft matter. After the knee has continued for some time in a diseased state, the diseased action gradually extends its influence over the neighbouring parts. The leg and thigh waste and are emaciated to a great degree, and the whole system becomes affected, so that the health and strength are gradually undermined, till the patient dies, exhausted from the continuance and violence of his sufferings.

THE predictions that we are able to make in cases of morbid affections of the knee joint, must depend partly on the nature of the complaint, and partly on the severity of the attack. In rheumatic cases, the most severe attacks are attended with little danger.

But cases of white swelling are always formidable, and portend danger in the slightest form. Therefore, the species of complaint, as well as the violence of symptoms, must be considered, before we ought to give an opinion on the subject.

IN a decided attack of white swelling, Mr. Russell advises to small bleedings from the joint, particularly with leeches; where there are symptoms of inflammation, cold saturnine solutions, and solutions of the muriate of ammonia; but if the cold astringent applications fail in giving relief, he advises hot stupes, as recommended by the French surgeons, but doubts of their general efficacy. He reprobates, from experience, the use of mercury in any form. This medicine I tried in the first case stated, without any good effects. Of all the medicines in common use for this disorder, he considers a powder of gum ammoniac, moistened with vinegar of squills to form a paste, spread on soft leather of sufficient size to cover the affected part, as best. He recommends a number of other applications which are in general use; but the most important class of medicines, to produce permanent relief to this very formidable complaint, are those which will cause a purulent discharge of matter from or near the part affected. They all operate on the same principles, but differ materially in their effects, according to the mode of using them. The insertion of issues in the vicinity of the joint, appears to have been the most ancient practice of treating white swellings.

MR. PANTEAU, of Lyons, recommends forming an issue on the knee joint, an inch in diameter, by an actual cautery, and preserving a discharge for a con-

siderable time : but the surface is too inconsiderable to produce the effects most desirable. Mr. Russell observes, being convinced by experience, that of all the substances used, or that in our present state of knowledge can be used, to stimulate the skin and produce a discharge of matter, blisters of cantharides are the most powerful, the most certain, and the most completely under management.

MR. SAMUEL COOPER, member of the Royal College of Surgeons in London, wrote a treatise on the diseases of the large joints, in 1806. In consequence of the importance of this work, the college adjudged to him the prize for that year.

MR. COOPER observes, that the structure of the knee joint is the most complicated of any articulation in the body. Besides the capsular and lateral ligaments, which it has in common with a majority of other joints, it is also furnished with particular ligaments. The complication of its structure seems to be the reason why its diseases should not only be more frequent, but more obstinate and difficult of cure than most other joints. The articular surfaces of the knee, and the cavity of its capsular ligaments, are much larger than those of any other articulation. No large joint in the human body is so little strengthened and supported by the conformation of the bones as the knee ; and no other important joint derives its strength so entirely from ligaments. Of course, no joint is so much exposed to accidents. In all inflammatory affections of the joints, he recommends the same treatment as is commonly used in all other local inflammations ; and as soon as the first stage of inflammation has subsided, to apply a blister as the

most efficacious remedy, and to keep up a discharge from the blistered surface with savin ointment.

THE only distinctions which systematic writers have made with respect to the white swelling, are rheumatic and scrofulous. The latter kind of disease is a rare occurrence in this country, under the name of white swelling. It appears to me, as far as my experience goes, to be generally a local affection, and the constitution becomes affected only by the progress of the disease. Both Russel and Cooper give their decided opinion, that almost all cases of white swelling arise, in England, from a scrofulous habit; that the bones are never enlarged, but become diseased; and that the disease always commences in the ligaments and membranes of the articulation; and they say when the disease is cured the joint is reduced to its natural size, which has not been the case with my patients, and the enlargement in them appears permanent.

MR. COOPER recommends, in the strongest terms, large blisters sufficient to cover the diseased part, and the surface to be kept open with the savin ointment steadily applied, till the cure is effected, without any regard to its cause; and that fomentations and poultices are totally unworthy our attention; for, if they do no harm, an insidious disease is gaining ground, which sometimes proves fatal to the life or limb of the patient, by neglecting severe measures, as soon as they are indicated. He gives Mr. Crouther full credit for the invention of the savin cerate for dressings to excoriated surfaces in the place of cantharides, which often produces a troublesome and painful strangury. This never

occurs from the savin, but a white matter originates on the surface, which it is necessary to scrape off, to keep it from healing underneath. I experienced no difficulty from this white matter; nor was there any disposition to heal. This dressing invariably gave more pain than the cerate with cantharides, but was more efficacious. I always observed that the more pain was produced by the dressing, the more the joint acquired strength. The practice may be considered cruel, but is it to be compared to the loss of the limb or life of the patient? Cooper observes, that humanity in this, or any other case in surgery, does not consist in withholding strong and vigorous measures, but in boldly deciding to employ them the first moment their use is indicated, and strictly to persevere in them till the object, if possible, be effected. And he observes further, that nothing is more serviceable in all cases of diseased joints, than to keep the morbid part perfectly motionless. Foolish attempts to walk, frequently renders the most scientific plan of treatment useless. He observes that the general state of health alone can form a solid reason for the removal of the limb. When the strength of the system seems nearly exhausted by the local malady, there is no alternative. An attempt to preserve the limb in such cases, must prove fatal to life. But while the constitution shews itself equal to the struggle, it is impossible to decide with certainty, that a white swelling, however bad it may be, will not have such a termination as to save the patient's limb.

MR. COOPER, in treating of the hip joint, observes that the disease is very analogous to the white swel-

ling of other articulations. One remarkable symptom in this disease is the elongation of the limb, which has never been explained on any rational principle; but it is a well known fact, that the limb is frequently three or four inches longer than the sound one; and after the formation of matter, the limb becomes shortened, which arises from an actual dislocation of the head of the thigh bone, in consequence of the destruction of the cartilages, ligaments, and articular cavity. None of these circumstances attended the case I have related, except the shortening of the limb, which did not arise from suppuration, as it never appeared, nor was there any marks of elongation, in any stage. The shortening depended, so far as any judgment could be formed, on the gradual distortion of the pelvis; but Cooper had an opportunity of dissecting most of his patients, as appears by the history of his cases. He considers it in every stage a most formidable disease, and advises nearly the same remedies as in the white swelling of other joints, but thinks he has found more benefit from deep caustic issues in the hip disease, than in the other joints.

DR. FALCONER, of Bath, informs us, that the waters of that place are a sovereign remedy, when used warm. Cooper supposes, that most of his cases were merely rheumatic, for the cure of which a warm bath of any kind of water is the best remedy. The Bath waters contain nothing specific, and are highly improper where a real disease of the hip joint exists, except in the early stages where inflammation is suspected.