

ciently to lead the laborious life of a peddler, tramping, with his pack for twenty years subsequently, through Pennsylvania and New York. The only mark of injury now apparent is a slight prominence of the lower dorsal vertebra. He has never recovered control over the bladder and rectum, or sensation in the skin of the buttocks on the posterior aspect of the thighs.

DR. J. H. MURPHY, of St. Paul, Minn., said: Erichsen has cost the railroads thousands of dollars. He cited several cases of malingering.

DR. WM. H. PANCOAST, of Philadelphia, said: The question under discussion has two heads. First, is there such an injury as concussion of the spine, and are there malingerers who assume the symptoms. That there can be cases of concussion of the spine followed by serious consequences, I firmly believe, for I have seen them. I have seen cases where a violent concussion in a railway accident has so affected the contents of the spinal canal as to cause effusions, or such alterations of the membranes of the cord or of the cord itself, as to be followed by paralysis more or less complete. Many members of this Section of Surgery and Anatomy must, in the course of their lives, from mis-steps or other accidents, have recognized the force and painful effects of concussion. I have within the past few weeks been engaged in a medico-legal case, where a delicate lady, the wife of a physician engaged in a large and active practice, was thrown from a carriage in which they were both driving. A careless coachman driving a heavier carriage ran into them, and the collision threw her to the ground and against a wheel, with such violence that she became insensible. She has remained an invalid ever since, with marked symptoms of paralysis on one side. In neither of these cases was there hysteria or malingering.

There are malingerers, and we must be on our guard against them, and I have such faith in the honor of the members of our regular profession as a class, that I do not believe they would be parties to such a deception. I have been called as an expert in several such cases, and have sometimes settled the medico-legal questions in my office to the satisfaction of both sides. I feel assured that this learned body recognizes the existence of such an injury as concussion of the spine, and also that while the great railroads who do so much for the benefit of the country, should be protected from suits inspired by fraud and ignorance, that the great public should also have protection. I think that if corporations would give fair compensation for injuries received at their hands, through accident or the carelessness of their employes, and not insist that such injury should be proved to be permanent, that a cause exciting to fraud or malingering will be removed.

I give credit to the corporation surgeons of de-

siring to be honest, and giving a truthful scientific diagnosis from their standpoint; then why should not we also recognize the statements of the surgeon of the injured, as being inspired by the same motive, even if some one may occasionally be deceived by an ingenious and artful malingerer.

From my experience I think that very many railway injuries can be satisfactory adjudicated and the sufferers properly compensated by the judicious surgeon acting as mediator between the opposing lawyers, to the honorable satisfaction of both parties.

TWO CASES OF TUBERCULAR OSTEO-MYELITIS OF TIBIA.

Read before the North Texas Medical Association, June 12, 1889.

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Case 1.—In the Spring of 1888, Mr. —, æt. 40, consulted me for great and constant pain in the left tibia. I found him in a hovel, poorly ventilated, poorly warmed, and poorly lighted. The odor in the room was simply unbearable, but with burning tar in the room I examined the patient as best I could. Found him greatly emaciated, with large ulcer on left leg, several inches in length, with the presence of pieces of dead bone. He was being cared for by some of the charitable ladies of the place and consented to an operation. Assisted by Drs. Thompson and Gebhart, I proceeded to operate. After the anæsthetic was given I washed and scrubbed his leg with soap and water, then with solution of bichloride of mercury, 1:1000; wrapped his feet with towels wrung out of the bichloride solution, and also covered his body with antiseptic towels. An Esmarch bandage was applied above the knee-joint—about 6 inches—to make a bloodless operation. I then proceeded to cut down to the tibia, making an incision from near the insertion of the tendon of the patella to within a few inches of the ankle-joint. Peeled the periosteum back on both sides of the line of the incision, and then with mallet and chisels I proceeded to remove the anterior surface of the bone, finding the focus of the disease not far from the head of the tibia. I continued the use of the chisels and mallet until I thought all the abnormal material was removed, and when through I had a trough six inches or more long, half inch wide and half inch deep in some places. It was now scraped out with the sharp spoon of Simon, irrigated with solution of sublimate 1-1000. Again irrigated with solution of sublimate 1-500, and when this was through with a quantity of 1-5000 solution was used to wash out the stronger liquid. The operation by being bloodless was

made more thorough, because I could inspect every crevice and corner of the large trough.

A Schede's dressing was applied—that is, the cavity was sprinkled with powdered iodoform, the skin stitched together where it would meet, and over the line of incision a strip of antiseptic oiled silk was placed, overlapping the incision one inch on each side and about the same at each end; over this was placed a strip of iodoform gauze, then a thick layer of sublimated cotton, and over that several layers of sublimated bandage, tightly applied; over all a protective of oiled silk, previously soaked in sublimate solution. When all this was done the constrictor was loosened, and the cavity I had made allowed to fill with pure blood, the leg being held as near vertical as we could get it. He had no fever from the operation. The leg was dressed in one week and found almost healed by the organization of the blood clot. In six weeks he was well and upon the streets.

Case 2.—Mrs. H., æt 30, widow, consulted me for enlargement of left leg, with two ulcers near the upper extremity of tibia. Constant pain in leg, so much so that she had resorted to frequent use of morphia to relieve it. One of the ulcers opened down on the tibia. I proposed opening the bone and turning out the diseased mass. She consented, and I asked Drs. Haffner and Thompson to assist me in the work. After the use of the antiseptic precautions detailed in Case No. 1, I proceeded to cut down on the tibia in the middle line, turning back the periosteum on each side of the line of incision. This was not very readily done at the upper part of the wound, a previous operation, similar to the one I was doing, having been performed on her in Detroit, Mich. This operation was rendered bloodless by the use of a constrictor about the middle of the thigh, and hence in the use of the chisels I could follow the diseased tissue wherever it went. I chiseled away until I had a trough of the tibia leaving its sides and bottom. This was well curetted with a sharp spoon to remove any shreds of diseased material left, its entire removal being absolutely essential to success. This was rendered aseptic by use of sublimate solution 1-500, and then 1-1000; finally it was irrigated by solution 1-5000, and a Schede's dressing applied. Constrictor was now removed and leg suspended in upright position until the blood clot could form, when it was let down on the bed. Few hours afterwards blood was noticed oozing from the bandage near the ankle-joint. A rubber bandage was tightly applied for two or three hours and then removed. When the hæmorrhage had ceased the wet spots on the bandage were sprinkled with iodoform, and a fresh antiseptic roller bandage applied.

This dressing was taken off at end of ten days, and not a drop of pus was found, but the upper

third of the cavity in the tibia was empty, lower two-thirds filled with well organized clot, skin united over it so that the line of union was scarcely perceptible. The bandage was not applied tightly enough to prevent the loss of part of the blood clot, hence the empty third at the upper part of the wound. I tried to persuade her to let me fill this cavity with blood from her arm but she would not consent. About once in seven or ten days this cavity was filled with iodoform gauze, and it granulated until healing took place requiring three months. Had not the blood clot been lost the entire cavity would have been healed in a few weeks.

When another opportunity offers to make this operation I shall utilize the decalcified bone chips of Senn—that is, I'll fill the cavity with these chips and allow the blood to cement them together, using the Schede's dressing as above described.

Tuberculosis of bone is a subject that has not been understood until the last few years. Formerly, caries, necrosis, and tumor albus were the diseases we had to contend with, when the bones were involved. Thanks to the labors of Koch, Volkmann, and others we now know that what we formerly regarded as diseases are but the results of disease. Dropsy was once a terrible disease, and is so regarded to day by the laity and some of the profession. We know it only as a symptom. So with caries, necrosis, and tumor albus. They are but the results of inflammation of the bone, or rather of the bony envelope—the periosteum, endosteum, or medullary matter. Practically, inflammation of bone means inflammation of these substances; they are practically one. The bony material itself is not inflamed, but the endosteum, or periosteum, swelling, the resulting pressure cuts off the blood supply of the bone, and caries or necrosis is a result.

The causes of bone inflammation may be set down as trauma, cold, and fever. Upon this trauma we have engrafted an infection with the microbes of pus, tuberculosis, syphilis, rheumatism, or gout. The pus microbes, the staphylococcus aureus or albus, or the streptococcus pyogenes, are very vigorous and active and produce a very violent inflammation; whereas the bacillus tuberculosis is a slow growing coccus—it is not a pus producing coccus—and hence its effects are slower in manifesting themselves, and when only the bacillus tuberculosis is present in a joint or bone, only granulation tissue is formed. It may be said also that the bacillus of syphilis and rheumatism are not pus producing bacilli, and that their effects are slower in manifestation, and hence chronic. It follows that the acute bone inflammations are produced by the pus microbes, and the chronic inflammations by either the bacillus of tuberculosis, rheumatism, or syph-

ilis. Ninety-two per cent, of these inflammations of bone are so produced, leaving 8 per cent. for the pus microbes. Volkman, the greatest living authority on tuberculosis, says that 90 per cent. of the cases of caries are tubercular in their origin. When the trauma is slight the resulting bone inflammation is tubercular; when the injury is severe the inflammation following it is produced by the pus microbes. If the skin is not broken whence comes the microbes? We may say that they are floating in the blood current at all times, and, thanks to the leucocytes are being constantly destroyed, but when an injury results the effusion of leucocytes outside of the blood vessels renders them inactive, and a fine culture fluid is produced in which these microbes of disease have an opportunity to develop. If the injury is slight the inflammation resulting is tubercular or rheumatic; if severe, the pus microbes take possession of the field.

MEDICAL PROGRESS.

ON INJECTIONS OF TESTICULAR LIQUID.—In the Société de Biologie de Paris M. Variot reported three experiments which had been made to ascertain the physiological action of fresh testicular liquid injected subcutaneously, after the manner of Brown-Séquard. The liquid used was obtained by crushing and triturating the testicles of a rabbit or of a guinea-pig in 10 cubic centimetres of distilled water. After separating this liquid from the residual pulp by simple decantation two Pravaz syringes of it were injected under the skin of the abdomen at a dose, the injections being repeated every forty-eight hours.

Variot operated on three men, of 25, 56, and 68 years, respectively, who were much debilitated from various causes. The effects produced in these three cases were satisfactory from the first, and continued so after subsequent injections. Sixteen injections were made in all. No harmful symptoms requiring any attention were noticed. The injections proved painful but harmless. The pain following the injection is considerable for several hours, it is even accompanied by a general feeling of uneasiness, but not by fever. The first injections are especially painful, the subsequent ones much less so. The positive effects (which were the same in the three men, the nature of the substance injected not being known to them) were as follows: a general state of nervous excitement, an increase of muscular strength, regulation of the functions of the digestive channel, and some cerebral excitement. An increase of virility was found in two of the three cases.

Variot is unable to answer the question: whether these phenomena were an effect suggested merely by the operation, or whether they were

actually due to the action of the liquid, as claimed by Brown-Séquard. The number of experiments is as yet too small.

Brown-Séquard claims that the conditions under which Variot made the experiments prove that there was no imaginary effect in these cases, but that the liquid really possesses the properties that he ascribes to it.

Brown-Séquard also made experiments with liquid obtained from other glands, and proved that a liquid obtained by trituration of the lungs contained a toxic substance. Liquids obtained from trituration of the liver and spleen had no effect whatever upon the animals treated with them.—*La Semaine Médicale*, No. 27, 1889.

ON THE ETIOLOGY OF PERICARDITIS.—In the bacteriological examination of three cases of pericarditis G. BANTI (*Deutsche Medicinische Wochenschrift*, No. 44, 1888) found, in the first case, no microorganisms at all in the fibrinous exudate, for which reason he considered that an example of non-infectious pericarditis. It was the case of a man 48 years old who had been suffering for years from a chronic nephritis, and had died during an attack of uræmia, symptoms of pericarditis having appeared a week before death. The author thinks that here pericarditis was ascribable to the kidney disease, and that its cause might be of a chemical character, or might be looked for in the uræmic attack, as it is known that acute inflammations are often complications of acute uræmic attacks.

Two other cases of pericarditis belonged to the group of infectious pericarditis and developed in consequence of fibrinous pneumonia. In the first of these cases the diplococcus pneumoniae was found in the pericarditic exudate, as expression of a secondary localization of the latter; in the second case the pericarditis appeared as a mixed infection caused by the staphylococcus aureus and albus. In this latter case the inflammation probably spread directly from the pleura to the pericardium, as there existed at the same time an extensive pleuritis, and the staphylococci were also found in the pleural exudate.

Regarding the first case the author supposes that the pericarditis was of hæmatogenous origin, and to prove this he tried to produce, with the diplococcus pneumoniae, pericarditis in animals. For this purpose he created an artificial pericarditis by injecting oil of turpentine into the pericardium, or by cauterizing the latter, and then injected pneumococci under the skin. Numerous capsulated cocci were subsequently found in the pericarditic exudate thus obtained. This pericarditis was most easily produced if from twenty-four to forty-eight hours were allowed to elapse between the injury to the pericardium and the injection of the pneumococci, in which case always an isolated inflammation of the pericardium