was very fortunate, indeed, that Father Damien contracted the macular instead of the tubercular form of the disease, and that the palmer side of fingers and hands remained clean, permitting him to perform his spiritual functions until a few days before his death, which occurred April 15, 1889.

So ended the precious life of one of the greatest benefactors of the human race—the hero of charity! The greatest heroism of Father Damien was exhibited during his illness, as he persisted in working with hands and heart until a few days before his death. What could touch the human heart more than to see a leper priest render manual work and spiritual consolation to a congregation of lepers, the blind leading the blind, the lame supporting the lame! His heroic death has silenced the vile tongues. The surviving lepers can not be comforted; they will carry their grief over the loss of their faithful shepherd to their graves. The entire population of the Hawaiian Islands—in fact, the whole world—mourns his death. He has gone to his well-earned reward. His mangled remains sleep under the shadows of the pandanus tree which first sheltered the robust, devoted young priest awaiting a glorious resurrection. (Fig. 3.)

Volumes have been written in praise of Father Damien. Monuments have been erected to his memory, charitable institutions have sprung up to immortalize his heroic charity; but if that humble priest could speak to his admirers he would say, "I have only done my duty, praise God. Send greetings and extend a helping hand to my leper friends."

(To be continued.)

Clinical Notes.

A CASE OF CARBOLIC ACID GANGRENE.

E. DUNSTER KREMERS, M.D.

HOLLAND, MICH.

Introduction.—I am able to report this case through the kindness of Dr. A. Leenhouts, under whose care I saw the patient. This report is added to an already long list of cases, not because of its rarity or its unusual features, but because some physicians are still unaware of the danger in using carbolic acid as a dressing and in the hope that through their physicians' knowledge the laity may understand how to avoid the needless destruction of fingers and toes by this poison.

History.—G. H. R., age 15, male, schoolboy. The patient has always been a strong, healthy boy. On July 4, 1904, he was washing dishes and cut the little finger of the right hand by a piece of glass. There had been a case of tetanus in the town and, on the following morning, the boy's sister, fearful of "blood poisoning," applied a rag soaked in carbolic acid solution. She had been using a solution as a wash on an infected arm and had seen no ill effect. The solution was made weak in the proportion of about three drops of the liquefied acid to fifty drops of water. Twenty-four hours later this rag was removed and the skin of the finger "looked funny." The patient thought that the antiseptic was failing in its work and accordingly a stronger solution was made and the bandage bound very tightly. The next morning the finger was "all white" and was massaged.

Treatment.—July 8 Dr. Leenhouts was consulted and applied a wash of boracic acid, hoping to restore the circulation. July 11 the finger became black and began to be tender, and July 13 the patient went to bed feeling badly and with evident fever. At this time the finger was entirely bluish black with a well-marked line of demarcation about one-half inch below the metacarpo-phalangeal joint. Above this there was a line of redness and swelling.

Operation.—Under chloroform anesthesia the finger was amputated at the metacarpo-phalangeal articulation. No pus was found; a healthy flap was secured and united by silk sutures. July 14 the temperature rose to 103 degrees, at evening was 101 and the following day normal. There was no further trouble and the wound healed by first intention. Urine examination was negative.

Comments.—The strength of solution used in this case was probably about 5 per cent., because water will take up only that much. It was applied for about forty-eight hours and caused the patient no pain or discomfort. The tight constriction of the finger undoubtedly assisted in the production of complete gangrene, but probably the first application would have been sufficient.

TREATMENT AND ETIOLOGY OF PNEUMONIA.

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Including those cases mentioned in my article, published in THE JOURNAL, July 9, 1904, I have had up to date, July 30, thirty-seven successive recoveries of uncomplicated cases of pneumonia which were treated according to that article. My experience during the season just passed covers over two hundred cases, and careful observations lead me to believe there is a factor preceding the active physical signs of pneumonia which, by careful examination, can be detected in many cases prior to the stage of engorgement.

Unfortunately, it is impossible to get a positive history as the anesthetic properties of alcohol are a mask for reliable record. However, in those cases that have come under my care at an early date I have frequently been able to detect tenderness, from a mild to a severe degree, in the region of the gall bladder, with a corresponding amount of pain in the same region which may extend to the left and upper lobes of the liver. The tenderness and pain are invariably relieved as soon as the physical signs of pneumonia develop. Those cases that are preceded by severe gall bladder pain and bilious vomiting, I have invariably noticed, are followed by troublesome tympanites.

Just what relation, if any, these preliminary symptoms have to pneumonia I am unable to state at the present time. I would not be surprised if time would prove that microbial invasion of the gall bladder may become an etiologic factor in pneumonia. If any practical knowledge can be demonstrated from these theoretical views, we have accomplished all that theory is entitled to.

GONORRHEAL INFLAMMATION OF STERNO-CLAVICULAR ARTICULATION.

IN ONE CASE COMPLICATING FRACTURE OF CLAVICLE.

R. L. LARSON, M.D.

CHICAGO.

CASE 1.—John S., aged 20, came to me a few weeks ago with the following history:

History.—Three days previous he fell off a horse's back, striking on his left shoulder, apparently receiving only a slight contusion of the soft parts around the shoulder girdle. He paid no attention to it until great soreness and tumefaction ensued.

Examination.—I found well-marked evidences of simple, oblique fracture of the clavicle at its middle point. At the junction of the middle and inner thirds there was a hard, bony swelling, which he stated was the result of a fracture about a year ago, for which he was treated at the Alexian Brothers' Hospital. There was good union at this point.

I noticed a prominent swelling at the sternal articulation of the clavicle, which I did not think was concomitant with the recent fracture. The patient stated that he had an uncured urethritis of some three weeks' standing, and that this sternal swelling had appeared some three days previous to the accident. It was very painful and he was unable to use his arm to any great extent. The recent accident only spurred him on to see a physician.

Examination of the urethral discharge distinctly demonstrated the presence of gonococci.

Treatment.—Along with the surgical treatment of the fracture I administered the necessary treatment for his gonorrheal urethritis. With three-inch width strips of adhesive plaster I applied a Velpau bandage, and maintained the upper extremity and clavicle in good position.

Results.—Within four or five days the sternal swelling disappeared, and in twelve days the urethritis vanished, and then there only remained the subsequent treatment of the clavicle. At the end of the fourth week the patient wished to return to work as barn hostler and I very reluctantly freed him from his bonds. I had contemplated having him tied up for at least six weeks, considering the injury of a year before and his recent complication.

Now that five or six weeks have elapsed, I had the opportunity to examine this young man, and I find excellent motion in all the joints concerned.

CASE 2.—A case of interest in this connection occurred about two years ago.

History.—A young man, aged 21 years, came into the hospital during my service with a prominent swelling of the sterno-clavicular articulation. The chief surgeon suggested immediate removal of the sternal end of the clavicle. His diagnosis was "rapidly-growing osteosarcoma" of the clavicle.

Now the boy gave a distinct history of an uncured gonorrheal urethritis for the past two weeks. Microscopic examination showed gonococci. An x-ray picture showed slight shadow of circumscribed swelling at sterno-clavicular junction. The "tumor" had steadily grown for the past week. I argued in favor of gonorrheal synovitis.

Treatment.—Despite an interne's hopes and suggestions the boy was placed on the operating table next morning and everything made ready for operation. When I removed the antiseptic compresses from the region of the neck and chest the swelling was found reduced at least 60 per cent. of its original size on the day previous. It originally was larger than a hen's egg, well defined, around and posterior to sterno-clavicular articulation. No operation was performed outside of manipulation from the hands of the curious.

Suggestions were offered that the use of the x-rays had occasioned this wonderful change, and they were used daily for ten days. The patient then left the hospital, he and his friends holding the vague idea and opinion of a surgeon's skill in the use of the x-rays and magnetic touch.

63 East Chicago Avenue.

A CASE OF TETANUS TREATED BY SUBDURAL AND INTRASPINAL INJECTIONS OF ANTITOXIN. DEATH.

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Introduction.—The interesting phenomena which happened during the progress and treatment of a case of tetanus which occurred recently in my service¹ impels me to place the notes of the case on record. I believe the interests of the profession are best served by collating the material from all cases, whether successful or not.

History.—A male negro, 24 years of age, was admitted to the U. S. Marine Hospital, Baltimore, at 4 p. m., June 16, 1904. He complained of stiffness of the muscles of the lumbar spine, with rigidity of the muscles of the back of the neck. He noticed the beginning stiffness eighteen hours previous to admission to hospital, and ascribed his condition to the free drinking of ice water throughout the day.

Examination.—On admission he had considerable rigidity of the muscles of the lumbar spine and of the back of the neck. The neck was arched backward and there was slight opisthotonos. The jaw was stiff so that the mouth could not be opened as widely as formerly. On inquiry, the patient admitted that while working about a stable he ran a nail into the sole of the

right foot just five days prior to the onset of his symptoms. He stated that the wound gave him no further trouble.

Later Symptoms.—Two hours after admission there was noticed a decided increase of the rigidity of the muscles of the back, with some beginning stiffness of the muscles of the abdomen and flexors of the left thigh. The patient was sweating profusely, especially over the upper portion of the chest, neck and face. His skin was cool; temperature, 36.6 C.; pulse, 55 beats to the minute, full and strong. Heart action was tumultuous; no murmurs. There was now some difficulty in swallowing, and beginning stiffness of the sternomastoid muscles.

Three hours after admission there had developed, in addition to the tonic contractures mentioned above, an intermittent clonic spasm affecting especially the lumbar spinal and abdominal groups of muscles. These spasms arched the patient considerably. They were not typical of tetanic convulsions, being shorter in duration and occurring with greater frequency. The patient had an unnatural wrinkling of the skin of the forehead, due to the involvement of the occipitofrontalis muscle. There was no involvement of the risorius muscles. The muscles of the chest—that is, the intercostals, the pectoral and serratus magnus muscles—were only slightly rigid, and there was no embarrassment of respiration. The urine was normal, and there were involuntary evacuations of the bowels. All mental faculties were preserved, and there did not appear to be any hypersensitiveness to outside influences.

Treatment and Result.—Chloral was pushed in gram doses at half-hourly intervals during the six hours following admission. It produced drowsiness, but failed to have any effect on the spasms. Under chloroform, seventeen hours after admission, the skull was trephined over the parietal eminence, and 20 c.c. tetanus antitoxin were slowly injected under the dura. The wound was closed without replacement of the button of bone. At this time, 5 c.c. of cerebrospinal fluid were withdrawn in the ordinary antitoxin syringe by lumbar puncture, followed by the slow introduction of 10 c.c. antitoxin into the spinal canal. This latter procedure was thought advisable in order to get the more immediate effect on the toxin-locked ganglion cells which control the involved spastic abdominal and spinal muscles. The wound of entrance was laid open and packed. There was no shock incident to the operation, the patient reacted rapidly, and for three hours was free of spasms. As the effects of the anesthetic wore away, the convulsive movements returned, the patient dying of asphyxia within five hours after operation.

Remarks.—The points of interest to be noted in this case are the short period of incubation, which was exactly five days; the extreme rapidity of the course of the disease—forty-two hours—the marked involvement and apparent selection of the lumbar spinal and abdominal groups of muscles, and the comparative freedom from involvement of the muscles of the limb through which the tetanus organisms and toxin made their entrance. The negative evidence deduced from this case would advise, I believe, an early recourse to the use of antitoxin administered subcutaneously or along the sheath of the nerve trunk supplying the injured location as a preventive measure, or subdurally or intraspinally as a curative procedure.

Diphtheria in Healthy Throats.—M. Geirsvold of Christiania states in *Tidsskrift f. d. Norske Lægeforen*, No. 23, 1903, that he found diphtheria bacilli in the throats of 9.2 per cent. of 967 presumably healthy school children examined. The investigations were conducted in the schools during the period from May 28 to June 20, and 87 children were found to shelter the bacilli, in pure cultures in 22. In a later series in the fall he found them in 3.4 per cent. of 178 children. None exhibited any clinical symptoms. He remarked that this proportion is probably below the actual number, and that the children too young to go to school and adults also probably show a similar proportion, consequently strict isolation on the bacteriologic findings is impracticable.

1. In the service of Surgeon H. R. Carter.