

day, and by its connection with the piece of the left jaw, has retained that in position, so that, should it not become necrosed, it will be very useful. The wisdom tooth of this piece is not yet cut, and as all the teeth of the upper jaw are good, the patient looks forward to enjoying a moderate degree of masticating power.

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ART. X.—*Exsection of Right Clavicle.* By I. R. TRYON, M. D., Ass. Surg. U. S. N. (Communicated by W. Whelan, M. D., Chief Bureau Med. and Surg. U. S. Navy.)

PETER PITTS (mulatto), landsman, æt. 19, native Conn., from U. S. S. Hartford, admitted with gunshot injury received in action at Mobile Bay, Aug. 5, 1864. Patient supposed to have been wounded by a fragment of shell, which entered midway between articulations of the clavicle of right side, splintered the bone to both sternal and acromial extremities, fractured the first two ribs near sterno-costal articulation, passed through apex of right lung, and made its exit through scapula just beneath the spine of that bone.

Wound of entrance oval, edges jagged and inverted, with fractured extremities of clavicle pressing downwards and inwards upon the bloodvessels and nerves in that region.

Wound of exit nearly circular, edges lacerated and everted, with spiculæ of bone from clavicle and scapula protruding.

Six hours after the injury patient (being quieted from time to time by the inhalation of chloroform) was brought under the attention of the surgeons of the Hartford.

After careful examination, finding no portion of the clavicle could be preserved, Dr. James C. Palmer, Surgeon of the Fleet, removed the entire bone. During the dissection the attachments of the sterno-cleido-mastoid and trapezius to the clavicle were removed; the external jugular was the only vessel tied. The edges of the wound were brought carefully together by the interrupted suture, and water dressings applied; the spiculæ of bone removed from wound of exit, and dressed in the same manner.

Patient bore transportation exceedingly well, and on the afternoon of August 6, when admitted into the Naval Hospital at Pensacola, symptoms were quite favourable.

8th. Many additional pieces of bone were removed from wound of exit, and sutures taken from incision made by the operation. On account of the severe injury to the lung, pneumonia soon supervened, and very little hope of recovery was entertained by reason of the severity of the attack.

However, on the 19th, patient was fully convalescent from the pneumo-

nia, wounds looked favourable, suppurated freely, and healthy granulations observed throughout wound of exsection, with sternal point nearly closed.

The patient continued to improve till the 22d instant, when he became restless and anxious; bed-sores were soon developed; and by gravitation of pus at wound of exit abscesses formed beneath the scapula, which exposed the entire lower border. *This wound* gradually assumed unhealthy action; patient became emaciated, and died of exhaustion at 7.20 P. M., August 20, 1864, twenty-five days after the injury and operation.

At the time of his death the wound of excision had entirely healed near sternal end, and was filling up rapidly by healthy granulations near its outer extremity. With this evidence of repair we can safely state the perfect success of the operation, and but for the severe wound of scapula the probable recovery of the patient.

Treatment throughout, tonics, stimulants, and anodynes. And during the different stages of pneumonia the usual course pursued.

*Autopsy* sixteen hours after death revealed the following interesting data: that the *missile* had passed through clavicle (causing the fracture as stated which prompted its removal); fractured the two upper ribs; wounded apex of right lung; and made its exit, directly through the scapula, just beneath the spine near inner border. There was comminution of the entire posterior superior angle, and a fissure through the bone two inches in length, direction, towards the inferior angle.

Direct communication *had* existed between *anterior* and *posterior* wounds.

On examination of the thorax about one-fifth of the upper portion of right lung was found to have been destroyed, probably by the missile, in conjunction with the subsequent suppuration. This cavity was lined with a tough membrane, three lines in thickness, dividing it from the lower portion of the lung, which was found to be perfectly healthy.

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ART. XI.—*On the Uses of Sugar and Lactic Acid in the Animal Economy.* By SAMUEL JACKSON, M. D., Emeritus Professor of the Institutes of Medicine in the University of Pennsylvania.

THE chemical history of the sugars has been very thoroughly worked out by the researches of the chemists. As much cannot be said for its physiological actions and uses in the animal organism, or its relations with vital phenomena. On these subjects much valuable information has been obtained from the investigations of Liebig, Lehmann, and Cl. Bernard. They have not, however, so completely exhausted the facts as to render further observations unnecessary, or to cause additional suggestions to be thought obtrusive. With this view, it has appeared to me that a short review of this subject would not be inappropriate.