

Wounded in Action, 25 April 1943, in Tunisia

Admitted to 12th. General Hospital, 19 May 1943, from 77th. Evac. Hosp. (9 to 13 May)
from 5th. Gen. Hosp. (British, 9 May)
from German Hosp., 25 April to 9 May

Died, 20 June 1943, of secondary hemorrhage, from intercostal vessels in empyema cavity, resulting from his wound.

This 21 year old soldier was wounded in the left chest by a 30 cal. German bullet which entered posteriorly near the costal angle of the 10th and 11th ribs, passed anteriorly, inferiorly and to the right smashing the bodies of the 10th and 11th thoracic vertebra to lodge in, retroperitoneally, the right paravertebral gutter, opposite the 3rd. lumbar vertebra, $1\frac{1}{2}$ cm. from the aorta. Records of his care at the German hospital are too meagre to evaluate the patients status previous to arrival at the 77th Evac. Hosp. At this latter installation a pyopneumothorax was diagnosed and 800 cc of pus aspirated. He was received at 12th Gen. Hosp. on a plaster shell, in a severe state of malnutrition, multiple, superficial, infected wounds, a sacral decubitus, a left lower monoplegia, a red cell count of 1,000,000 and an evident left empyema thoracis. A thoracotomy released 1000 cc of foul pus which showed hemolytic staphylococci, hemolytic streptococci, and non-hemolytic but no anaerobes. During the following 2 weeks 4000 cc of whole blood and 2000 cc of plasma were administered along with usual general supportive care and attention to fluid balance. On 3 June, the fever began to rise and a few days later a severe hemorrhage occurred through the thoracotomy wound. No source of bleeding amenable to surgery was found and "the treatment became a race between blood loss and transfusion". A further 2500cc of whole blood and 2000cc of plasma were given. the red cell count which had risen to 3,000,000 on one occasion dropped progressively to a terminal value of under 1,000,000.

The salient postmortem findings were as follows:

" There is a recent thoracotomy wound at the level of the left 8th interspace in the posterior axillary lines. A large-bore drainage tube protrudes from this, containing partially clotted blood. At the level of the 4th dorsal vertebrae, and two inches lateral to it on the left side is an operative incision, now healed, which marks the closure of the wound of entrance.

The anterior mediastinum, including the heart, is found displaced two inches to the right. There are numerous recent and friable adhesions about the middle and lower lobe of the right lung, and the pleural space on that side contains about 50cc of serous fluid. The pleura of the greatly compressed left lung is completely adherent to the parietal pleura anteriorly and when freed large chunks of partially clotted blood crumble out of the left pleural space. The better to demonstrate relationships, the entire left side of the chest is cut away with bone snips, exposing about 1500-2000cc of partially clotted blood filling the entire left side of the chest. The pleura of the left lung, which is represented only by a narrow crescent of airless tissue, is thickened up to 0.4 cm, and the lower lobe is inextricably fused with the left leaf of the diaphragm. the pleura of the lower lobe is shaggy with rough strands of fibrin; it is dark red in color. The visceral pleura of the upper lobe, by contrast, is equally as thick, but quite smooth and a lighter red in color. The thoracotomy wound is carefully inspected, but there is no evidence of injury or erosion of the intercostal vessels, And the hemothorax seems to have originated from an extrapulmonary site, the location of which is not yet evident. So the entire thoracic and abdominal contents are eviscerated en bloc and dissection is performed from the dorsal surface. Inspection of the thoracic cavity shows two complete, internally compound fractures of the left 10th and 11th ribs at their costo-vertebral attachments, with some comminution. The centra of D10 and D11 are likewise smashed, the facets on each being broken. The intercostal vessels on the left side, after dissection, are found torn across and devoid of thrombus. When the injured vertebrae are further opened with a chisel, a small quantity of yellow pus exudes therefrom. In the right tenth interspace in the right

paravertebral line is a lemon-sized swelling of the parietal pleura. When this is excised, about 150 cc of pus escapes. The extrapleural abscess communicates with the injured 11th vertebral body by means of a sinus tract beneath the pleura, coursing over the prevertebral fascia.

The left lung weighs an estimated 200 grams. The pleura has been described. The entire lung is atelectatic, and the lower lobe is hemorrhagic, in addition. The bronchi are opened and probed, the superior bronchus of the lower lobe communicating with the exterior through the shaggy pleura previously noted. There is a small amount of clotted blood in this bronchus.

Careful inspection of the retroperitoneal space reveals the .30 cal. steel-jacketed bullet lodged in the right paravertebral gutter, opposite L3. Although it lies about 1.2 cm from the abdominal aorta, that vessel shows no evidence of damage. Nor does the inferior vena cava. There is likewise no evidence of any gross inflammatory change about the bullet."

Clinical Diagnoses:

- (1) GSW of the left chest.
- (2) Left empyema.
- (3) Compound, comminuted fractures of left 10th & 11th ribs.
- (4) Comminuted fractures of D10 & D11.
- (5) Retained bullet in retroperitoneum at level of L3.
- (6) Left lower monoplegia.
- (7) Superficial GSW of left buttock.
- (8) Left thoracotomy.
- (9) Sepsis and chronic blood loss.

Pathologic Diagnoses:

RESPIRATORY SYSTEM: Confluent bronchopneumonia, all lung lobes; massive atelectasis, left lower lobe; marked pleuritis, left lower and upper lobes. Massive left hemothorax, old and recent.

SPLEEN & HEMATOPOIETIC TISSUES: Acute splenitis.

LIVER: Cloudy swelling, fatty degeneration, and early chronic passive congestion.

GENITOURINARY SYSTEM: Chronic passive congestion, moderate.

BONES & JOINTS: Compound, internally comminuted fractures of the left 10th & 11th ribs (at costo-vertebral juncture); comminuted fractures and suppurative osteomyelitis of D10 and D11.

MISCELLANEOUS: Extra-pleural abscess of right 10th interspace in paravertebral line, with sinus tract leading to D11; Recent thoracotomy wound; healed dorsal operative incision on left side at level of D4; furunculosis of skin of left chest over dorsal surface; emaciation; neurogenic atrophy of left leg; retained bullet in right paravertebral gutter, opposite L3.