Pullen (7)

[redacted]: Pfc. [redacted] AAA.

Wounded in action 9 Sept. 1943 at Salerno landing.

Admitted 12th Gen. Hosp. 14 Sept. 1943 from boat.

Died: 21 Sept. 1943 from Secondary hemorrhage into the bladder as result of his wounds.

This 26 year old soldier was wounded by shell fragments in the lower back and sacral region producing fracture of the surgical neck of the right femur, comminuted fracture of the left sacroiliac joint with penetration into the pelvis; and wound of face entering through the right cheek to end in the left eye. On admission to the 12th Gen. Hosp., there was moderate abdominal distention and tenderness. There was no blood in stool or urine. The external wounds were moderately infected and the patient ran septic type of fever. There was persistent complaint of pain in the bladder and difficulty in urinating, so much so in fact that an indwelling catheter was inserted. X-ray examination revealed obstructed intestinal loops, numerous foriegn bodies in abdomen and pelvis, the sacral and femoral neck fractures and their associated foreign bodies and the foreign bodies in the left orbit. The abdominal distention increased despite the introduction of a long tube, and the vesical distress became more intense. One week after admission massive quantities of blood (estimated 3000cc) were suddenly passed by urethral catheter. Plasma and blood were administered and preparation made to open the abdomen. Death occurred before the operation could be started.

The salient features of the Autopsy follow: 3, 4, 5, 7.

A. The left eye is covered by a bandage which, upon removal, discloses an eyeball which, although free from infection, has been completely destroyed.

B. The abdomen is markedly distended and therefore no masses can be palpated therein. The external genitalia are those of a normal adult male. The indwelling catheter is still in place, and pressure over the bladder area produces a dribbling of watery, blood-tinged fluid therefrom.

C. The back shows several shrapnel wounds, the largest of which is a silver dollar-sized area over the left sacro-iliac region. A wound the size of half-dollar lies on the right side, just above the posterior iliac crest, about one inch from the midline.

D. The usual "Y" incision reveals a moderate amount of yellowish midline fat over chest and abdomen. The muscles are well developed. The peritoneal surfaces are lustreless and covered with a sparse amount of gray-white fibrin which has similarly plastered the small bowel loops together. The latter are markedly dilated. The omentum lies in the upper abdomen and much of its extent is plastered about the ascending colon two inches proximal to the hepatic flexure. The cecum is pulled toward the midline and is firmly adherent to the anterior abdominal wall. The sigmoid flexure is fused by a plastic exudate to the terminal ileal loops, and an obvious mass the size of a small grapefruit lies beneath. On the lateral side of the pelvic colon lies a mass of recently clotted blood approximating ### two ounces, and a similar deposit is noted lateral to the cecum.

E. The bladder is opened in situ and a large firm red clot removed which is an exact cast of the bladder cavity. An irregular fragment about 20mm in size (metallic) is found lying free in the area of the trigone, beneath the evacuated clot. There are no other foreign bodies in the clot itself. There is a ragged irregular tear, evidently of recent origin, in the posterior wall of the bladder, and a probe passed through this opening emerges readily into the pouch of Douglas, which is roofed over by the adherent distal ileum, cecum, and sigmoid colon. The vesico-rectal space proper underlying the above structures contains a grape-fruit sized mass of partially organized clot which is superficially sprinkled with fibrin flakes.

F. The gastrointestinal tract is opened throughout. Nowhere is there evidence of perforation. The cecum is injected and plastered with fibrin, and there is a small patch of early gangrene at the base, due to traumatic interruption of the blood supply by a wound whose tract ### extends to the exterior through the shrapnel wound noted previously over the right iliac crest. The ascending colon is wrapped about with omentum at the site previously noted, and the serosa is much discolored and fibrinous at this site. There is a similar focal interruption of the blood supply, and the injured right colic vessels overly a wound in the posterior body wall which presents itself externally as a small lesion in the overlying dorsal skin on the right side just about at the level of the lower pole of the kidney, but medial to it. A similar state of affairs obtain about the sigmoid flexure, but again the bowel lumen has not been entered. The rectum is intact.

G. The comment of Capt. Hugh Wilson, prosector, is of interest. This patient died of exsanguination when a shrapnel fragment penetrated his bladder. From the history and findings at autopsy, it is probable that the following events occurred:

H. The fragment found lying free on the trigone after the removal of the bladder clot apparently had been lodged in the posterior bladder wall. Bleeding which occurred immediately following injury to the superior hemorrhoidal vessels by this fragment was presumably not vigorous, giving time for reactive inflammatory change whichled to the roofing over of the pouch of Douglas by the sigmoid colon and cecum. A clot was formed in the pouch of Douglas. Presumably a fresh hemorrhage started from the injured vessels, increasing pressure in the retrovesical space and forcing the fragment into the bladder cavity proper. The blood followed the tract made by the fragment, and the patient bled to death through his urethra. The peritonitis in this instance was aseptic from a clinical standpoint, and merely represented inflammatory change secondary to ischemic bowel wall plus the presence of blood in the peritoneal cavity.

Clinical and Pathologic diagnoses were as follows:

CLINICAL DIAGNOSES

(1) Multiple penetrating shrapnel wounds of back
(2) Traumatic destruction of left eye
(3) Fracture of the surgical neck of the right femur
(4) Comp. fracture of the left sacro-iliac joint
(5) Retained foreign bodies (metallic) in abdomen
(6) Possible perforated viscus
(7) Peritonitis
(8) Exsanguination from terminal bladder hemorrhage

PATHOLOGIC DIAGNOSES

(1) Cardiovascular system: None
(2) Respiratory system: None, save recent right hydrothorax with partial atelectasis
(3) Spleen and Hematopoietic tissues: Acute splenitis
(4) Gastrointestinal system: Ischemic necrosis, early, patchy, of terminal ileum, ascending colon, and sigmoid colon: reactive fibrinous peritonitis of these bowel areas; traumatic interruption to blood supply at above points; ileus, adynamic, marked; no actual perforation of bowel wall at any point.
(5) Liver: Acute passive congestion; acute cloudy swelling; proliferation of Kupffer cells.
(6) Pancreas: None.
(7) Genitourinary system: Acute cloudy swelling; formalin casts (artefacts) in renal tubules
(8) Central nervous system: None
(9) Endocrine glands: None
(10) Bones and joints: Fracture of the surgical neck of the right femur; compound fracture of the left sacro-iliac joint.
(11) Miscellaneous: Penetrating wound of right cheek; traumatic destruction of left eye; recent hematoma filling bladder; shrapnel fragment in bladder; perforating wound, recent of posterior bladder wall; massive old and recent blood clot in pouch of Douglas; recent blood clot lateral to left sigmoid flexure and lateral to cecum.