Kernig, constipation and a slow pulse. There was no squint, little photophobia, and no vomiting.

Lumbar puncture under local anaesthesia was performed at once. There was under considerable pressure pouring out in a steady stream. Twenty centimetres were removed. The fluid was "gin-clear" to the naked eye, contained a little blood and large numbers of Gram-positive lanceolate encapsulated diplococci, morphologically indistinguishable from the pneumococcus of Fraenkel. No growth, however, was obtained at the end of three days in culture media. The possibility of the collecting tubes having been contaminated could be excluded. Apart from the blood there were no cells present in the fluid. The same evening the patient's temperature fell from 104·9 to 99·2°F. Next day his mental condition was much clearer, and steady and rapid improvement in all his symptoms had commenced: in two days his temperature had become normal and there was no return of pyrexia during the succeeding fourteen days for which he remained under observation. The rash disappeared gradually in three days. The second lumbar puncture was performed on the twelfth day of illness: the fluid was under lower pressure, and was again "gin-clear"; a few micro-organisms similar to those described above were found; again these did not grow on culture. There was no blood in the centrifugalized fluid, but a considerable number of small mononuclear leucocytes were present.

The principal points of special interest in this case are:

(1) The slightness of the meningeal signs.
(2) The close resemblance of the clinical picture to that of an enteric infection.
(3) The very peculiar characters of the fluid.
(4) The "crisis" coinciding with the first lumbar puncture.
(5) The rash.
(6) The complete absence of symptoms or signs pointing to a pulmonary infection.

NOTES ON SOME CASES OF GUNSHOT WOUND OF THE ABDOMEN IN A CASUALTY CLEARING STATION IN MESOPOTAMIA.

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The following notes refer to some of the cases of gunshot wound of the abdomen which came under my care in No. 16 Casualty Clearing Station, during the fighting round Kut-el-Amara.

The earliest that any case reached the hospital after receipt of wound was four hours, and this case was not from the trenches (Case 6).

The average time between being wounded and reaching hospital was about sixteen hours, so that it is easily understood that a very fair number of cases reached us in a condition hopeless for operative treatment.

No mention is made of this class of case, or of cases arriving showing no abdominal symptoms. For practical purposes a case wounded in the abdomen and showing no abdominal symptoms after sixteen hours, can be looked upon
Clinical and other Notes

and in any event is fit for evacuation to a stationary hospital, and should be kept in a casualty clearing station.

The roads leading to this hospital were "kutchas," and in view of their condition and the distance to be travelled, sixteen hours was as quickly as we expected to get these cases, particularly as the motor ambulances were ordered to go slowly with serious cases.

Management.

Most of the cases required rest, and in some cases either intravenous or subcutaneous infusion, for an hour or so after arrival, before any operative treatment could be considered.

A warm bed, clean pyjamas and rest, often worked wonders in a man who at first sight looked hopeless.

Cold, which at certain times of the year is intense in Mesopotamia, was a problem, but was overcome as far as possible by the use of oil stoves, which, even in tents, which were all that we possessed, made a very considerable difference.

Operative Technique.

The abdomen was usually opened in the midline, or the right or left para rectal incision used as was considered would give the best access to the lesion.

Suture was used whenever possible, and if resection was necessary, end to end anastomosis was always performed.

The abdomen was never washed out, but only mopped out with gauze swabs soaked in saline.

Pelvic tube drainage, the tube being removed in twelve hours, was employed.

After-Treatment.

Fowler's position and rectal infusion were routine. Beyond these each case was treated on its own merits. Pituitrin was found very useful for collapse, and also to overcome intestinal stasis a day or so after operation. A turpentine enema often proved of value for flatulence.

Case 1.—Entrance wound right buttock, exit through right rectus below the umbilicus. Operated on twelve hours after being wounded. Condition of patient good, only slight rigidity of lower abdomen. Vomited twice after admission. At operation three wounds were found in the small intestine; these were closed by suture. Convalescence uninterrupted; evacuated on the tenth day, doing well.

Case 2.—Entrance wound left mid axillary line above the crest of the ilium, exit just above the umbilicus. Operation twelve hours after being wounded. Patient's condition very bad, required infusion subcutaneously during the operation. Showed all the signs of an abdominal catastrophe.

At operation multiple wounds of the small intestine were found, and a long tear in the pelvic colon. Ten inches of small intestine were resected and the pelvic colon sutured. Patient gave rise to considerable anxiety for a few days, but was finally evacuated on the twelfth day, doing well.

Case 3.—Entrance wound below umbilicus on the left side; exit wound behind
at the same level. Operation twenty hours after being wounded; condition of patient fair. At operation three wounds were found in the small intestine; there was considerable matting of the intestines round the perforations, which were close together, and they were to some extent shut off. Wounds were sutured. It is possible that this man would have developed a local abscess and perhaps a faecal fistula, without operation. Evacuated on the tenth day, doing well.

Case 4.—Entrance left buttock, exit below and to the left of the umbilicus. Vomiting, rigid abdomen and fast pulse. At operation no intestinal lesion was found, only a small amount of blood in the peritoneal cavity, origin uncertain. Belly closed. Evacuated on the tenth day, healed.

Case 5.—Entrance three inches above the umbilicus, exit below the left costal margin. Operation twelve hours after being wounded. At operation a large ragged tear in the splenic flexure was found. Eight inches of splenic flexure resected. Patient died about six hours later. His condition on admission was very bad and it was only after intravenous infusion that it was thought possible to attempt any operative interference.

Case 6.—Accidentally wounded by an officer’s servant who was cleaning a revolver. Operation five hours after being wounded. Entrance below right costal margin, exit just above umbilicus. At operation multiple wounds in the small intestine were found; resection of over two feet of small intestine performed. Patient did perfectly for five days and was thought to be out of danger, when he suddenly became faint and short of breath, and died in an hour or so. It was thought to be a case of pulmonary embolus. I regret that no post-mortem examination was performed owing to a rush of work at the time.

Case 7.—Entrance left buttock, exit below right iliac crest. Blood-stained urine was withdrawn from the bladder by catheter. At operation two tears were found in the bladder near the base. These could not be sutured, and suprapubic cystotomy was done. Small pieces of bone from the ilium were removed from the interior of the bladder. Bladder drained, and also the pelvis for twelve hours. Evacuated ten days later, doing well.

Case 8.—Entrance four inches below left costal margin, exit same level below right costal margin. Operation twelve hours after being wounded. Condition of this patient bad. At operation multiple wounds in small intestine found. Resection of three feet of small intestine performed and end to end anastomosis done. Patient died the next day.

The above cases are representative of the type that we received in the hospital. A fairly large number of cases were admitted whose condition rendered any operative interference impossible, and these were particularly disappointing. Quite a number of cases were evacuated who required no operation, and in some of these a consideration of the entrance and exit wounds made it difficult to believe how they could have escaped an intestinal lesion. Case 4 is interesting in this respect, no lesion being found at operation, though his condition and the position of the wounds made one definitely to expect such. It is fair proof, I think, that a bullet can penetrate the abdomen without damaging the gut.