knees slightly flexed and her hands under the back of her head, resting on the pillow. The pulse was 130, the temperature 98° F., and the respirations 32. The pain, which had been very severe, was easier; she had not vomited, but felt sick, and complained of a desire to micturate, which she had been unable to satisfy.

There was no visible sign of injury, such as a graze or bruise, but the whole abdomen was rigid to palpation. The point of maximum tenderness appeared to be to the left of the mid-line and in the left iliac fossa, but her condition was too grave to justify questioning. To percussion the whole of the left flank seemed duller than the right, but no definite shifting dullness could be found. The liver dullness was normal. The catamenia were regular and no period had been missed. I ordered her immediate removal to hospital.

At 7 p.m. she was anaesthetized with open ether. Examination then revealed definite dullness in the left side of the abdomen, which did not shift. A catheter was passed and about 8 oz. of pale and normal-looking urine withdrawn. The only possible diagnosis was severe internal haemorrhage, and the spleen appeared the most probable source in view of the fact that the urine was normal. It was impossible to exclude injury to the gastro-intestinal tract in addition.

Operation.

A median incision was made below the umbilicus and free blood could be seen through the peritoneum before this membrane had been incised. The incision was then extended upwards. The peritoneal cavity was full of blood and blood clot. On commencing to remove the latter, bright fresh blood welled up extremely profusely. Examination revealed to the touch a tear in the visceral surface of the spleen. The bleeding appeared to be controlled when the splenic artery and vein were compressed. This was effected with the left hand whilst the spleen was brought into view with the right. The tear was then seen to extend through the hilum involving the point of entry of the vessels.

As time was of the utmost importance, no effort was made to isolate the individual vessels. A pedicle needle was passed through the extreme tail of the pancreas and one ligature made to include the whole vascular pedicle of the spleen, which was then removed. The peritoneal cavity was cleared of blood and clots and then flushed with normal saline at a temperature of 112° F. The incision was closed in layers, and as much saline left in the cavity as could be retained. At the conclusion of the operation the colour was better, the pulse 120 but much fuller, and the respirations 36.

After-Treatment.

The patient was put in the low Trendelenburg position, and rectal saline injections were immediately started. To the first saline injection of 2 pints, brandy 1 oz. and aspirin gr. xv were added. The instructions were to repeat the saline injections every two hours as long as the patient could retain them, and that the bed was to be put flat at the expiration of four hours. The following morning the head of the bed was raised on high blocks.

The patient made an uneventful recovery. The temperature rose to 100° in the first twenty-four hours, but thenceforward remained normal or subnormal. No external bruising ever developed, nor was there any injury to ribs.

REMARKS.

The main interest in the case appears to lie in the fact that it is possible to sustain such a severe injury from a comparatively trivial accident. The patient is an averagely covered woman, weighing 8 st. 7 lb., and stands 5 ft. 2½ in. Macroscopically the spleen appeared healthy.

I am indebted to Dr. Penny for giving the anaesthetic and to Dr. W. B. Maurice for assisting me at the operation.

The accompanying sketches are intended to illustrate precisely how the injury occurred; and Dr. H. M. Turnbull, Director of the Pathological Institute, London Hospital, who kindly examined the spleen for me, reports that with the exception that it was very anaemic, it was otherwise normal in every way.

TRAUMATIC RUPTURE OF SPLEEN.

WITH A FEW NOTES ON THE BLOOD.

BY

CAPTAIN E. H. JONES, M.B., B.S., R.A.M.C.

The patient whose case is here related was admitted to the Preston Royal Infirmary, October 31st, 1912, under the late Dr. Garner.

T. W., a boy aged 10, had fallen a distance of 20 ft., coming in contact with a tree stump. He walked 100 yards and then fainted. He was admitted to hospital the same evening, with signs of intra-abdominal injury.

Operation.

On opening the abdomen by the high rectus incision I found that the peritoneal cavity contained much free blood, the source of which was found to be the spleen, which was almost completely severed. The organ was removed through a transverse incision, commencing at the apex of the exploratory opening, and the abdomen closed hurriedly.

After-History.

For seven days progress was uneventful. On November 7th, 1912, the temperature shot up to 104° and reached 105° on the next four days. The patient had definite bronchopneumonia, the temperature returning to normal by lysis by November 19th, 1912.

He was discharged on December 18th, 1912.

I saw the boy on November 14th, 1915 (three years after the operation), and he was quite healthy, doing half-time at the mill.

Blood Counts.

On November 3rd, 1912 (three days after the operation), the blood count was—

Red cells	...	...	...	3,500,000
White cells	...	...	...	15,600
Polymorphonuclears	...	...	...	36 per cent.
Mononuclears	...	...	...	64 per cent.

Following the bronchopneumonia the blood count was—

Red cells	...	...	...	3,500,000
White cells	...	...	...	21,200
Polymorphonuclears	...	...	...	58 per cent.
Mononuclears	...	...	...	42 per cent.

On December 4th, 1912, the blood count was—

Red cells	...	...	...	3,000,000
White cells	...	...	...	11,000
Polymorphonuclears	...	...	...	68 per cent.
Mononuclears	...	...	...	28 per cent.
Eosinophiles	...	...	...	4 per cent.

A year later Dr. Leigh kindly examined his blood for me, and found mononuclears rising in percentage and eosinophiles up to 6 per cent.

On December 14th, 1915, Dr. Tindall, the honorary pathologist to the Preston Royal Infirmary, made a final count, which was as follows:

Red cells	...	...	...	3,200,000
White cells	...	...	...	6,900
Polymorphonuclears	...	...	...	55 per cent.
Mononuclears	...	...	...	44 per cent.

A case Dr. Collinson operated on during the same period, a lad of 19, showed lymphocytosis, which persisted for at least a year, without the return of a higher polymorphonuclear count such as accompanied the bronchopneumonia in my case. Dr. Collinson's case showed an eosinophilia of 12 per cent. twelve months after the operation. This patient is now serving with the colours.

The cases are interesting as showing (1) the original leucocytosis, (2) a relative lymphocytosis of some duration, (3) the transient eosinophilia twelve months after removal of the organ, (4) the absence of any adverse effect following removal of the spleen.

A CASE OF PROBABLE SPONTANEOUS RUPTURE OF THE SPLEEN.

By W. B. OGILVIE, LIEUTENANT-COLONEL I.M.S.,
SUPERINTENDENT, DELHI GAOL.

It is recognized that this case is not a well proved one, but such cases are of so much deep interest to those working in tropical countries that it is thought worth while to record it, incomplete though it is.

Prisoner, male, aged 28, had been in gaol for three months, during which time he had never been in hospital, and his weight had remained steady. On a Sunday he did none of his ordinary work—paper making—but washed his clothes and

bathed, according to the usual routine. On the Monday he ate his full morning meal. He then reported sick, and was detained in hospital. He complained of fever, chill, and cough during the previous night; his temperature was 99.4°. He did not complain of any discomfort in the abdomen, nor did he admit any fall or blow. Careful inquiry failed to elicit any history of a fall or blow. On admission the spleen was enlarged. In the evening his temperature was 102°. He ate the greater part of his evening meal, and complained of nothing beyond the fever. About 10 p.m. he vomited twice or thrice. At midnight he became suddenly collapsed, and died at 1.20 a.m. on the Tuesday.

Post-mortem Examination.—The body was well nourished; rigor mortis was present; there were no marks of violence. The examination was held fifteen hours after death; the body was quite fresh, and showed no signs of commencing decay. The weather was cold and dry. All the tissues were anaemic to a degree. The abdominal cavity was full of clotted blood and clear serum. The spleen was enlarged to twice the normal size, and looked black. On its anterior surface was a tear about 2 in. long. On removing the spleen, the capsule was seen to be distended with firmly clotted blood. The spleen itself was anaemic, the colour was the "light red" of the paint-box, and the substance was almost diffuent—about the consistency of thick porridge. The other organs were normal.

What apparently negatives the possibility of a blow having been received before admission to hospital, and rupture of the spleen thereby, is the steady rise of temperature. Had the spleen been ruptured by a blow there would probably have been shock, and almost certainly no rise of temperature; the internal haemorrhage would have kept the temperature down.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ICHTHYOL IN ERYSIPELAS.

A MAN was admitted with a large suppurating wound on the inner side of the arm, with some redness and swelling around the wound. The temperature rose next day to 104° and then to 105°. The usual signs of erysipelas were present, the redness and swelling extending below the elbow. I ordered the arm to be painted every twelve hours with ichthyol and glycerine equal parts, and covered with oil-silk, and gave him a mixture containing large doses (2 drachms every four hours) of liq. hydrargyri perchloridi. In forty-eight hours the temperature was normal, and all the local symptoms of erysipelas had disappeared; the wound was then dressed with ordinary hypertonic saline solution.

In another case, of a man sent from the trenches with both arms covered with boils, local treatment by ichthyol and glycerine had equally good results.

HELEN SEXTON, M.B., Ch.B.

Médecin Chef, Hôpital Australien, Paris.

RELAPSING BERI-BERI.

THAT beri-beri is due to the deficiency or absence of substances called vitamins; that polished rice is one of the common food substances deficient in vitamins; and that beri-beri is found practically only in rice-eaters—these are the commonly accepted views about the etiology of this interesting ailment, and it may therefore be well to record any definite cases where the disease was clearly not due to rice eating or, indeed, to any obvious want of vitamin substances. The patient, aged about 28 years, was a soldier on sick leave. He contracted beri-beri in India. His was the regulation army diet—meat, vegetables, milk, bread, butter, tea, coffee. On a rare occasion he would take a bit of rice or sago pudding, but at no time of his life was he ever on an exclusive or continuous rice dietary. He had exhibited the usual symptoms—multiple peripheral neuritis, some paralysis and some anaesthesia, very considerable weakness, cardiac dilatation, and oedema of the legs. Under treatment for some months in bed he improved, but signs of cardiac dilatation with a definite bruit still remained. Oedema of the lower extremities was intermittent. He was liable to relapses of the condition whenever he fell into ill health from any cause. These were accompanied by hyperaesthesia of the muscles and of the nerve trunks. During the periods of remission no physical sign of the disease could be seen, except the evidence of cardiac dilatation.

The usual cardiac tonics, as iron and digitalis, appear useful for the heart trouble, but nothing seems to have any specific effect on the beri-beri.

J. C. McWALTER, M.D., D.P.H., R.A.M.C.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

THE LORD DERBY WAR HOSPITAL, WARRINGTON.

A CASE OF SUDDEN HEART FAILURE UNDER ANAESTHESIA:
DIRECT MASSAGE OF HEART: RECOVERY.

(By GERALD SICHEL, F.R.C.S., Captain R.A.M.C.)

PRIVATE —, aged 22, was admitted on September 29th, 1915, suffering from a severe gunshot wound of the left hand, received in France on September 26th. A rifle bullet had struck the middle finger, almost completely severing it; the wound was very septic.

He was treated with hypertonic saline baths, and syringing with hydrogen peroxide, and the wound cleaned up considerably. As it was considered necessary to amputate the finger he was, on October 4th, given a general anaesthetic—a mixture of chloroform (two parts) with ether (three parts), and alternately pure ether on an open gauze mask. He was taking the anaesthetic quite well, and was wheeled from the anaesthetizing room into the operation theatre.

He was lifted on to the operation table, when he suddenly became ghastly white, sweated profusely, and the pupils became widely dilated. Breathing continued slow and regular, but rather shallow. No pulse or cardiac impulse could be felt, or heart sounds heard. An incision a little to the left of the middle line was rapidly made into the upper part of the abdomen, and meanwhile hypodermic injections of strychnine and brandy were given, and a cloth wrung out of boiling water applied to the precordium.

The right hand was inserted into the abdomen, and a flabby mass, supposed to be the heart, seized through the diaphragm, and energetically and rhythmically squeezed. In a short time the flabby mass suddenly became hard—like a cricket ball—in the hand, and firm, regular, but slow contraction commenced. After a little these firm contractions became tremulous and threatened to cease, but on squeezing, again became firm and regular; this routine was carried out several times, and at last a regular heart-beat and regular pulse were established. The patient began to strain and vomit, so that there was some difficulty in sewing up the abdominal wound. In about twenty minutes he was taken back to the ward, where a rectal saline injection was administered.

In the evening he suffered from considerable pain in the abdomen and chest, which was allayed by a hypodermic injection of morphine. He made a good recovery, and as it was deemed unwise to give him a further anaesthetic the injured finger was eventually amputated by means of strangulation, with a piece of indiarubber tubing.

Remarks.

1. The man's general vitality was probably considerably lowered from septic absorption.
2. The movement of lifting him from the stretcher on to the table appears to have been the deciding factor in the cardiac failure.
3. The anaesthetic was chiefly ether, the amount of chloroform being very small.
4. The subsequent pain was probably due to bruising of the diaphragm, and perhaps the heart.
5. I think the hypodermic injections of strychnine were of use once the heart's action was re-established, although obviously they could have been of no good whilst the circulation was stagnant.

My thanks are due to Dr. Garner and Mr. Stone, R.A.M.C., for efficient help at the time of the emergency. Dr. Manson was responsible for the subsequent treatment of the patient.