A CASE OF ENTERIC FEVER WITH SPONTANEOUS RUPTURE OF THE SPLEEN.

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PATIENT was admitted to hospital, Bloemfontein, on February 25th, 1905, complaining of headache, which he had had for two days; his bowels had been opened the previous day. He had had no previous illness during his service.

Condition on Admission.—Temperature 101·4° F., midday, face somewhat flushed, tongue coated with greyish-white fur, no rose spots on abdomen, which was slightly fuller than normal, no marked enlargement of spleen observed. He was given phenacetin, 7 grs., e. caffeine, 3 grs. In evening temperature was 102·0° F., his headache was better, and he said he thought he would be fit to go out on the morrow; as his bowels had not been opened that day, calomel, 3 grs., was given, which was followed early next morning by mistura alba, 1½ ounces; diet: milk, 3 pints, and two bottles of soda water.

On February 26th, temperature in morning, 100·4° F. Patient said he felt quite well and wanted to go out of hospital; bowels unopened, condition otherwise the same. Splenic dulness did not extend below the costal margin. Temperature in evening, 103·4° F.

On February 27th, temperature in morning, 100·2° F., condition unchanged; a simple enema was given resulting in a semi-formed yellowish stool; mistura alba, 1 ounce, was given in the afternoon and he passed a loose dark yellow stool.

On February 28th, temperature was 100·0° F. in morning, tongue drier but still covered with grey fur, abdomen slightly tympanitic, bowels opened once, the motion being loose and light yellow, much more typical of an enteric stool than the previous ones; he was moved from the observation enteric tent into the enteric ward, being carefully carried on a stretcher. His evening temperature rose to 104·0° F., and he was sponged; whenever his temperature was 103·0° F. and over he was ordered to be sponged. During the night he had another stool, loose and yellow.

On March 1st he was put on a simple mixture of oleum terebinthinæ, 5 ml., t.d.s. His condition was unchanged, his pulse being good and varying from 80 to 88 beats per minute; a few rose-coloured spots were seen on the abdomen and chest.

On March 2nd his condition was unchanged, except that his appearance was somewhat heavier and his face paler.

On March 3rd at 2 a.m., temperature was 103·4° F., but was reduced to 101·6° F. by sponging; at 6 a.m. temperature was 100·2° F.; at 7.30 a.m. he had a simple enema and a loose stool resulted; at 8.30 a.m.
he passed another similar stool; at 8.45 a.m. he complained of severe pain in his abdomen and he felt very ill. He vomited for the first and only time, his face became pallid and covered with perspiration, and his temperature subnormal. I saw him at 9 o'clock and he was in a collapsed condition, somewhat restless, and complaining of severe abdominal pain; his pulse was very weak and rapid, his abdomen was tender, distended and tympanitic, the liver dulness being diminished. I asked Captain West to see him with me, and suspecting perforation, it was decided to operate. It was thought advisable to wait for an hour or two to allow him to recover somewhat from his collapsed condition, therefore he was given $\frac{1}{2}$ gr. of morphia, and turpentine stupe to abdomen. His pain was relieved and he became much quieter, and his pulse improved somewhat. At 10 a.m. his temperature was 97° F. At 12 noon he was brought into the theatre and Captain West operated upon him.

Case handed over to Captain West.

(Signed) T. S. Dudding, Lieutenant, R.A.M.C.

March 3rd.—At 10 a.m. this morning I was asked to see the case with Lieutenant Dudding. The patient was in a very collapsed condition, sweating profusely, and pulse very weak and rapid. He complained that an hour previously he was attacked by a severe pain in the abdomen and vomited. The pain he described as being in the middle of the abdomen. On examination the abdomen was slightly distended, rigid and very tender. On percussion it was tympanitic all over, and liver dulness practically obliterated. As he was so collapsed it was thought advisable to wait for an hour before operating, and $\frac{1}{6}$ gr. morphia was given hypodermically. At 12 noon, chloroform having been administered, I opened the abdomen below the umbilicus in the middle line. On reaching the peritoneum it bulged into the wound, and on incising it blood gushed out. The whole of the lower part of the abdomen was full of blood and the intestines were floated upwards. No air escaped from the abdominal cavity when the peritoneum was incised. The whole length of the small intestine was examined and no perforation or bleeding point could be found. By this time patient was in an extremely collapsed condition. Strychnine and ether were administered but pulse could not be felt at the wrist. The spleen was suspected to be the bleeding organ, but patient was not fit to stand any more, so the abdomen was washed out with very hot saline solution, to which about 20 ml of adrenalin chloride was added. The abdominal wound was closed. Patient was now moribund, so he was not removed to bed, and he died about ten minutes later on the table.

Post-mortem Examination.—In the afternoon I performed a post-mortem. The abdomen was found to have several large clots of blood among the intestines and around the splenic area. The abdomen was freely opened so as to expose the spleen in situ. It was seen to be very large and to have a rupture about three inches long on the diaphragmatic
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surface. On removal it was found to weigh 2 lbs. 2 1/2 ounces, and the capsule was extensively separated by blood clot. The intestines showed seven well-marked enteric ulcers in the small intestine and one very large and deep ulcer in the cecum. The mesenteric glands were much enlarged, and one on section showed a necrotic patch. The liver weighed 5 lbs. and was normal. Kidneys normal. Right lung weighed 9 1/2 ounces, normal. Left lung 8 1/2 ounces, normal. Heart 11 1/4 ounces, normal. Brain and spinal cord not examined.

Cause of Death.—(1) Enteric fever, (2) spontaneous rupture of spleen and intra-abdominal hemorrhage.

(Signed) J. W. West, Captain, R.A.M.C.

In a retrospect of the case one is struck by the apparent mildness of this case and the very short duration of the illness. It is probable that the duration of the disease was longer than the period ascertained from the man's history, viz., eight days; the temperature with its variations pointing to a third week of the disease. On the other hand, the temperature on admission to hospital was lower than it was whilst in hospital.

The absence of any symptoms of illness tended at first to veil the diagnosis. The enlargement of the spleen was in all probability present early, though veiled by the tympanites, and certainly this was the case on the morning of the collapse. And in regard to the symptoms and signs of the collapse, it was impossible to say definitely at first whether this was due to a perforation with its accompanying signs, or to hemorrhage with or without perforation. The bowels were floated upwards, and it needed very little fluid in the abdominal cavity to convert a mildly tympanitic abdomen into one in which tympanites was well marked. The attack of vomiting, the acute unlocalised pain in the middle of the abdomen, the absence of liver dulness, the rapid, weak pulse, the pallor and perspiration of the face, were all in accordance with the view that perforation had taken place. The only thing that pointed to hemorrhage was the restlessness, and that was not marked. Dulness in the flanks would have helped one, but this was not present to any marked extent at the period when the man was examined, viz., within twenty minutes of the time that the rupture had apparently taken place.

Further interest lies in the extreme rarity of the condition. Osler states that in 2,000 autopsies made in Munich, only five cases of ruptured spleen were found.

Cultures of the mesenteric glands on agar and gelatine proved sterile.