depths of the crypts, and surface applications could not be expected to reach them.

Living cultures of *Staphylococcus pyogenes albus* had also been employed as sprays over the tonsils in the hope of outgrowing the diphtheria bacillus, and it was usually found that swabs taken next day were negative for Klebs-Loeffler organisms, but were loaded with staphylococci. The bacilli, however, reappeared in large numbers within a day or two. The probable explanation is that the large number of staphylococci collected on the first swabs had outgrown the bacilli on the media. If, however, the staphylococci outgrew the bacilli on the tonsils, then fresh organisms were soon resupplied from the tonsillar crypts.

CONCLUSIONS.

1. That in apparently normal individuals the *Bacillus diphtheriae* may be harboured in the depths of the tonsillar crypts.
2. That complete enucleation of the tonsils seems to be a successful means for eliminating diphtheria organisms from carriers, although it appears too drastic a measure for routine adoption.

PNEUMOTHORAX WITH HERNIA INTO LEFT PLEURAL CAVITY.

BY

T. H. SANDERSON-WELLS, M.D.LOND., M.R.C.S.ENG.,
L.R.C.P.LOND.,
WEYMOUTH.

THE following case seems sufficiently rare to merit publication:

The patient, aged 26, was admitted to the Princess Christian Hospital, Weymouth, in the late evening of August 21st, complaining of urgent and persistent vomiting. There was a previous history of indigestion for some years; he had never been jaundiced.

The patient was wounded in the chest ten months previously. It was apparently a perforating gunshot wound, followed by the spitting of blood, and fracturing the eighth, ninth, tenth, and eleventh ribs in the left mid-axillary line. The wound was quite healed and sound. The patient had apparently had previous attacks, lasting as much as six hours, but they had become milder during the last three months.

The present attack followed violent exercise on August 17th. Complaint was made of pain in the region of the pylorus; it became very acute forty-eight hours later and had continued ever since. Vomiting occurred thirty-five minutes after the onset of the pain and persisted. The vomit at first was green, but soon became black, with an unpleasant, but not fetid, odour. It recurred during the time he was watched every four minutes in amounts of a few ounces. There had been constipation since the onset of the pain, but he passed flatus on August 20th. He attributed his condition to a diet of fish, but no solid food was taken for forty-eight hours; water swallowed returned almost immediately as black fluid.

On admission he was very collapsed and nearly pulseless, and Dr. Quackenbos, who handled him throughout with the greatest care and skill, administered 10 minims of adrenalin hypodermically. An enema led to the passage of a small quantity of flatus, but no faeces.

The abdomen looked extraordinarily empty, and had an appearance of scaphoid retraction. There was no tenderness, but a little lump to be felt over the pylorus, which was tender and which eventually proved to be an enlarged lobe of the liver. The liver dullness appeared, however, to be normal. Reflexes were present.

There were obvious physical signs of a pneumothorax. The heart's apex beat was visible beneath the right nipple; dullness was present on the left side up to the fourth rib; breath sounds absent; tinkling fluid splash sounds. The patient, whose condition was very bad, was given saline, $\frac{1}{150}$ grain of atropine, and 10 minims of adrenalin.

Operation.

A median incision was made above the umbilicus, and the abdomen explored. The bowel felt, and appeared to be, completely collapsed, and much of the abdominal contents absent. The stomach could not be found, the great omentum and transverse colon had also disappeared. The liver was pushed downwards, and presented in the wound. Further exploration with the hand traced the stomach, omentum, and colon up towards the left half of the diaphragm, and through a hole at the back of the diaphragm into the left pleural cavity. Reduction could not be effected, and the diaphragm was incised from behind forwards, the hole enlarged, and the fingers passed through into the pleural cavity; firm adhesions were discovered between the pleura and its contents, and reduction was obviously impossible. The abdominal wound was quickly closed and the left thorax opened by an osteoplastic resection of the ninth and tenth ribs on the left side in the mid axillary line. Adherent

omentum covered the pleura over the wound and had to be tied off; then through the opening collapsed colon and an enormously dilated stomach presented. A Paul's tube was inserted into the stomach, and $1\frac{1}{2}$ to 2 pints of black fluid drained off. The tube was packed round with gauze, and the skin held in position with a few stitches. The patient was removed to bed, his condition apparently better than when he was brought down. His breathing was much easier, and he seemed very comfortable. He became restless, however, and, despite the exhibition of all usual remedies, he died in the small hours of the morning.

A partial investigation was made the following day by Dr. Quackenbos, who reports as follows:

The heart was situated behind the sternum, the apex being in the parasternal line on the right. An aperture was disclosed in the body of the left diaphragm, which had been enlarged by incision, but which appeared to be of some standing. The liver was displaced downwards, and to the left. The left lung was collapsed, and showed evidence of bronchopneumonia and adhesions at the apex. The stomach was very much enlarged, and, with the transverse colon, the great omentum and four feet of the jejunum, was in the left thorax. The omentum was firmly adherent to the aperture in the diaphragm and elsewhere to the pleura. There were adhesions of the gut to the pleura in places.

The explanation of the condition is difficult. The old-standing appearance of the hole in the diaphragm might even suggest a congenital weakness, but it seems more likely that the perforating bullet wound which broke the ribs injured the diaphragm, and that the negative pressure in the thorax drew up abdominal contents to take the place of collapsed lung.

Whether, had the patient's condition been better, it might conceivably have been possible to separate the adhesions and reduce the hernia it is difficult to say, but in any case the future function of the organs would not have been satisfactory.

A CASE OF ECTOPIA VISCERUM.

BY

P. R. COOPER, M.D., B.Sc., F.R.C.S.,
BOWDON, CHESHIRE.

THIS case is of sufficient rarity to merit a brief description, especially as the question of surgical intervention arose.

A male child, 16 hours old, was brought to the Altrincham Infirmary by Dr. Young of Broadheath. An umbilical sac or cyst, larger than the abdomen itself, was attached at the umbilicus by a broad pedicle. Its covering was translucent and composed of apparently the same gelatinoid material as the umbilical cord, with which it was incorporated. The sac was fairly tense and contained some darkish fluid, but the wall was not sufficiently transparent to allow of the contents being identified. The child was apparently full time, but not quite of normal size. It was markedly cyanosed and sluggish in its movements, but it evinced no signs of bodily discomfort. The head and limbs were well shaped and apparently normal. The thorax was, however, very narrow and poorly developed. There was very little abdominal wall apart from the umbilical protrusion. The testes were undescended, but the penis and scrotum were well formed.

It was doubted very much whether the condition could be remedied by surgical means, but as the child had practically no chance of survival without surgical intervention, and as the possibility of such intervention could not be ascertained without exploring the contents of the sac, it was decided to operate immediately. Dr. Young gave the anaesthetic, and the abdomen was prepared as for laparotomy. The outer wall of the sac (that is, amnion) was pinched up with forceps, snipped, and a quantity of blood-stained watery fluid released; this reduced the size of the sac quite one-half, and a second covering was exposed by extending the opening in the outer layer. Both layers were extremely thin, membranaceous, and non-vascular, except just at the lower part, where the umbilical vessels proceeded to the stump of the umbilical cord.

On incising the inner covering (? peritoneum) the large dark solid mass of the liver at once presented; this was situated entirely outside the abdomen proper. The intestines were also exposed, and were for the most part entirely outside the abdomen proper. The opening of the abdominal wall proper—that is, where the gelatinoid material of the sac abruptly joined the normal skin—formed a ring of about 2 in. diameter, and through this an attempt was made to reduce the extruded viscera. With great difficulty the intestine was put back, but it was found quite impossible to replace the liver. There was not only no room for it inside the abdomen, but there was not enough abdominal wall to have covered it even had one been able to reduce it. All that could be done was to reapply Nature's inadequate covering of the viscera, stitch it in position, and dress the parts aseptically. The child lived for twenty-seven hours after the operation. It had two actions of the bowels, but so far as we know did not pass water. A little fluid was given by the mouth, but vomiting occurred shortly before death, which presumably resulted from cardiac failure.