symptoms during the last period of life, and probably accelerated the patient's death.

REFERENCES.

¹ Reports from the Pathological Laboratory of the Lunacy Department, New South Wales Government, vol. cxi, p. 54, "Heterotopia of the Spinal Cord." ² A Clinical and Anatomical Report of a Case of Friedrich's Disease, *Medical Journal of Australia*, February 17th, 1917. ³ Orr and Rows: Observations on the Influence of Toxins, *Journ. of Ment. Sci.*, April, 1914. ⁴ Williamson: *Diseases of the Spinal Cord*, 1910.

DIAPHRAGMATIC HERNIA OF THE ENTIRE STOMACH AND GREAT OMENTUM.

BY

J. GRANT ANDREW, M.B., C.M., F.R.F.P.S.G.,

VISITING SURGEON TO THE VICTORIA INFIRMARY, GLASGOW; FORMERLY LIEUT.-COLONEL (TEMPORARY) R.A.M.C.(T.).

[With Special Plats.]

As this case is unique in respect that x-ray photographs are shown of the entire stomach in the left pleural cavity and after operation in the normal situation, it was thought worthy of publication. The history of the case is also interesting, showing the amount of unnecessary hardship inflicted upon a long-suffering and patient soldier by a failure to recognize the great diagnostic value of x-ray examination.

M. B., a rifleman, aged 22, was shot by a sniper about 7 p.m. on March 12th, 1917, while occupying a captured German trench. The bullet entered the left side of the chest behind and immediately below the twelfth rib, $2\frac{1}{2}$ in. from the middle line, and was extracted from under the skin on the following day at a point 2 in. below and 1 in. to the inner side of the left nipple line, a through-and-through wound. The bullet, as frequently happens, had turned round and was pointing base uppermost. No anaesthetic was given for its removal. Milk alone was given by the mouth at the casualty clearing station and was retained. From the casualty clearing station he was removed to a base hospital in Rouen, arriving in England on April 17th, 1917. Several months were passed in a general hospital and convalescent home before he was considered fit to return to his regimental dépôt, which he did about the middle of July. He complained at his dépôt that he suffered much pain after food of any description and that he was frequently sick. His statements were disregarded and he was given "medicine and duty." In spite of his complaints he was sent back to France on July 27th, that is, four months after receiving his wound. Every day while in France he suffered pain, and was totally unable to digest the ordinary army ration. He was told that he was "swinging the lead," and received little or no sympathy. He stuck it until he could stand it no longer, and he was carried down from the line too weak to go as a sitting case. He returned from France on December 28th, 1917, sent home as a case of gastritis. That label has been his undoing. He arrived at an auxiliary hospital in Scotland on December 31st, 1917. For seven or eight weeks he received treatment for gastritis, after which he spent thirteen weeks in a convalescent home, but without any improvement. A visiting medical officer to the convalescent home marked him as fit for discharge from the service, and for this purpose he was sent back to the hospital to which he had been sent on his return from France. Instead of giving him his discharge a medical board at this hospital gave him ten days' leave and marked him "duty." On the second day of his leave he reported sick, and was immediately admitted to the medical wards of the "mother hospital." Here also for weeks he was treated for gastritis, and was given medicine and milk diet. He was ultimately, on July 25th, 1918, fifteen months after being wounded, discharged from the service as a case of gastritis.

Not being one whit better, he consulted the local Pensions Committee; they sent him to a hospital for pensioners, and there he received the same line of treatment on the medical side of the house. After six weeks' residence in this hospital he was, to use his own term, "fed up," and he intentionally overstayed his leave, and was in consequence dismissed from the hospital.

On again consulting the local Pensions Committee he passed into my care on February 19th, 1919, for the first

time under the charge of a surgeon; and that was by inadvertence. On admission it was noted that his general condition was unsatisfactory. Examination revealed the existence of the scars in the left lower chest wall as before noted. The heart was slightly displaced towards the right, and was irregular in rhythm. The base of the left lung was dull to percussion, and the respiratory murmur was absent in the lower half of this lung, while râles were heard in the upper half in the greater part of the right lung.

His constant complaint, however, was that of pain immediately after or very shortly after food of any description, and a feeling of great distension. From the situation of the through-and-through wound, my opinion at this stage was that the condition might be one of hour-glass contraction of the stomach following perforation by the bullet.

The case was clearly one for examination by bismuth, and he was sent for a radiographic report. The entire stomach, as shown in the accompanying photographs taken by Major James R. Riddell, appeared to be above the diaphragm and in the left pleural cavity. Though his general condition was not good, if relief was to be obtained at all operation was an imperative necessity.

On March 25th, 1919, assisted by Captain Rimer, U.S., A.M.S., and by Captain James Maclean, R.A.M.C.(T.), as anaesthetist, the abdomen was opened by a transverse incision through the left rectus muscle. The transverse colon immediately presented itself. No stomach was visible. An additional vertical incision was necessary to get under the diaphragm. It was then seen by tracing up the bowel from the duodenum that the entire stomach and great omentum, as indicated in the x-ray picture, had disappeared and were on the other side of the diaphragm, the opening in the diaphragm being in the neighbourhood of and indistinguishable from that through which the oesophagus enters the abdomen. With considerable difficulty the stomach was drawn back into the abdomen. The omentum had contracted adhesion to everything it came into contact with, and probably to the under surface of the lung. Any attempt at traction caused haemorrhage, and a portion of the omentum so adherent that it was dangerous to remove was left in the pleural cavity. The opening in the diaphragm was closed by strong interrupted silk sutures. The stomach appeared thickened as if the wall had hypertrophied in the vain effort to pass the food on to the duodenum; but what was still more striking was the absence so far as one could see of any perforation or track of perforation by the bullet.

His recovery was naturally slow, but was not complicated in any way. The wounds healed primarily. When last seen by me, on May 20th, he stated that he was now completely free from sickness and from pain when food was taken. He was taking ordinary diet. The heart was normal in position and in rhythm. There is still some comparative dullness at the base of the left lung with diminished respiratory murmur, vocal fremitus, and vocal resonance.

Since the commencement of the war in 1914 several cases of a similar nature have been put on record, but no case, so far as I have been able to find out, has been published showing by x-ray the herniated stomach. In the BRITISH MEDICAL JOURNAL of April 19th, 1919, Sir James Barr, in writing on chest conditions, referred to a case of diaphragmatic hernia of the stomach successfully operated on by Captain Arthur J. Evans. Captain Evans has not yet published his case, but he kindly sent me a copy of the medical case sheet. The similarity of his case to mine is very striking, both in regard to history and the condition found on operation. Almost a year elapsed—eleven months—in Captain Evans's case before operation. Captain Evans writes: "The most interesting point about the case is how the patient ever managed to survive the most extraordinary trials he must have gone through before it was recognized that he was a serious case." Two years elapsed in my case, and the record, to say the least, is not one to be proud of. In both cases the entire stomach and omentum had passed into the left pleural cavity, and in both the difficulty lay in returning the omentum. The following articles may be referred to by those interested in the subject: "Notes on a case of traumatic hernia of the diaphragm proving fatal seven months after wound," by Captain C. P. Symonds, R.A.M.C., *Journal of the R.A.M.C.*, September, 1917; "La hernie

diaphragmatique étranglée consécutive aux plaies de guerre," by L. Bérard and Gh. Dunet, *Lyon chirurg.*, No. 5, xv, 39; "A case of diaphragmatic hernia following gunshot wound: attempt to bring about radical cure by extensive thoracoplasty," by David M. Greig, *Edinburgh Medical Journal*, June, 1919.

The following is the note given me by Major James R. Riddell, R.A.M.C.(T.):

The patient could only take part of the opaque meal and that with great difficulty. Skiasepic examination showed that three-quarters of the stomach was in the thorax. The portion remaining in the abdomen was joined to that above the diaphragm by a narrow passage. Practically all the opaque meal could be made to pass back into the chest cavity by laying the patient for a few seconds on his side and elevating the hips; the tone was poor and peristalsis was not made out. The upper limit of the stomach was about the level of the third rib in front.

In the diagram the dotted line shows the normal position of the stomach alongside the position of the patient's before operation.

Two of the skiagrams, A and B, were taken before and one, C, some weeks after the operation.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FOREIGN BODY IN CAECUM SIMULATING APPENDICITIS.

On August 6th I was requested to visit C. K., aged 35 years, of weak intellect, who was suffering acute abdominal pain, especially in the right iliac fossa. The muscles were very rigid, and I suspected a perforation from a sloughing appendix. The patient was at once removed to the hospital, and, with the assistance of Dr. Cecil Richardson, I opened the abdomen by a para-rectal incision. Considerable trouble was caused by protrusion of small intestine on account of the muscular contraction, which could not be controlled by the anaesthetic. On exploring the caecal region a hard substance was felt which could only be a foreign body. It lay diagonally across the caecum and ascending colon, and had a sharp point which had perforated. The perforation was slightly enlarged and the foreign body extracted, proving to be a wire nail 3 in. long. The bowel was clamped, the perforated spot buried by a purse-string suture, and a reinforcing Lembert suture applied in the horizontal axis. The wound was healed on the tenth day, and there have been no further symptoms. C. K. does not seem inclined to give any information as to how or why he swallowed the nail, but one can hardly believe it was an accident.

J. B. PIKE, M.R.C.S.Eng.,
Honorary Surgeon, Loughborough Hospital.

THE INFECTIVITY OF SYPHILIS.

I venture to suggest that the medical profession is not sufficiently alive to the danger of syphilis being transmitted in innocence and apparently also indirectly from one member of a household to another. During the last two years I have come across three instances of this.

1. A girl, aged 15, used to nurse a syphilitic infant that had been born to a young woman, to whom her mother had given hospitality while her sweetheart was with the colours. The girl got a chancre on her lower eyelid, with enlargement of glands, sore throat, and exanthem. A month or two later her mother showed typical secondary manifestations, with what appeared to be the primary lesion in the perineum, close to the anus. She had no lesion further forward; her husband was away (in France, I believe), and altogether I think it most unlikely that she had been unfaithful.

2. I attended for a miscarriage a woman who showed late secondary signs, and a little while afterwards she gave the disease to her husband in the ordinary way, when he was put on military duty nearer home. Shortly after that one of their family, a boy aged 5 or 6 years, got a primary sore on the outer side of his forearm. About six months later an older boy came up among my out-patients with rash, enlarged glands, etc. (like his younger brother), and a condyloma at the anus.

3. A year ago another family I know had a visitor staying with them (a woman, I fancy) who told them incidentally that she (or he) had been attending at a hospital in a neighbouring

city for injections into her blood of sheep's blood, as her (or his) blood was so poor! Presumably this individual had overheard some remarks on the technique of the Wassermann reaction. However this may be, the man of the house got a primary sore in the usual place, though, as I think, innocently and indirectly. He had a course of galy and mercurial treatment, but failed to present himself again. About a month ago his wife came to see me with a faint scaly eruption, sore throat, and enlarged glands. She gave a positive Wassermann reaction. The husband had been cautioned as soon as seen, and I do not believe he had transgressed. Finally, within a week of the wife's coming to me, their 15-year-old daughter developed a sudden vulvitis. There was swelling and redness of the labia, and a row of three or four tiny non-indurated ulcers, with serous exudation only, and slight enlargement of the inguinal glands. A dose of novarsenobillon and of colloid mercury caused almost complete return to normal in a few days, but no spirochaetes were found.

For myself I cannot resist the conclusion that an infected vessel or w.c. seat has in some at least of these cases transmitted the virus. If this really is the explanation, an unmistakable warning should be given. All public closets ought to have the front and perhaps also the back part of the seat cut away, and every man, woman, and child should be taught to cover their own closet seats with paper during use, especially whenever there is the least possibility of its being used by a stranger.

W. REGINALD WILSON, M.A., M.B. B.C. Cantab.,
Honorary Surgeon (with charge of Venereal Department),
Doncaster Royal Infirmary.

CYCLIC VOMITING AND THE EFFECT OF SODIUM BICARBONATE IN ACETONAEMIA.

B. W., aged 5 years, was, without warning, taken sick with severe headache and vomiting on the morning of July 12th. The vomiting persisted, and two hours later he became "unconscious" according to his mother, and remained so until I was called in at 5 p.m. He tossed about the bed semi-conscious, occasionally putting his hands to the head as if in great pain; the pupils were widely dilated but reacted to light. The breath had a sweet odour as had the vomited matter. The temperature (rectal) was 100°, pulse 90, regular. There were no signs of meningitis such as Kernig's sign or head retraction, and examination of heart, lungs, and abdomen were negative. The bowels had been confined for two days.

Repeated doses of saline aperient were ordered at 9 p.m., and were taken throughout the night. On the following morning there was general improvement; the breathing was quiet and regular; the bowels were being freely opened; the patient was in a sleepy condition. A few hours later (5 p.m.) unconsciousness again ensued, followed by restless delirium and marked "air hunger" and relapse. The breath again had a noticeable sweetish odour. The urine showed the presence of acetone. At 6 p.m. sodium bicarbonate (solution 1 in 30) was introduced by a catheter into the stomach and into the rectum, and morphine gr. $\frac{1}{4}$ was given hypodermically at the same time. After 6 oz. of solution, corresponding to about 3ij of sodium bicarbonate, had been introduced at 8 p.m., the patient recovered consciousness sufficiently to drink the solution. He drank this liberally throughout the night, and afterwards fell into a quiet sleep, which was continued for several hours, and was followed by complete recovery of consciousness and cessation of vomiting during the day.

The remarkable features of this case are (a) the suddenness of onset of vomiting and delirium without apparent cause; (b) the remarkable effects of alkaline administration in bringing the child back to consciousness; (c) the lapse back to delirium and air hunger supervening on discontinuing the alkali; and (d) recovery on the further administration of large doses of sodium bicarbonate.

Southsea.

R. HAMER HODGES, M.B., B.S. Lond.

A CASE OF SUPERFETATION WITH COMPLICATIONS.

THE following case is of interest, perhaps especially on account of the very small size of the second fetus, and because of its grave and finally fatal complications.

About ten days ago I was called to a confinement attended by a midwife; on arrival I found a healthy looking female child, apparently full time, and born some one and a half hours previously, an empty bag of membranes, and yet another bag of membranes in which was a fetus of about three months' gestation, and showing no

J. GRANT ANDREW: DIAPHRAGMATIC HERNIA OF THE ENTIRE STOMACH AND GREAT OMENTUM.

FIG. A.

FIG. B.

FIG. C.

- 1, Cardiac end of the stomach filled with air.
- 2, Upper level of the opaque meal.
- 3, Diaphragm.
- 4, Pyloric end of the stomach still in the abdomen.
- 5, Position of the normal stomach.