intensity, although there was no further rise in temperature. His mind did not become normal again for two days. He made a rapid convalescence, but could not read for any length of time or study for some months. The focal reaction after the last dose makes it, to my mind, certain that the influenza bacillus was infecting his brain.

CASE II.

An elderly gentleman when first seen by me had been ill for a week with lethargy and bronchopneumonia. *Micrococcus flavus*, streptococci, and influenza bacilli were isolated from his sputum. He was exceedingly ill. The temperature was 102°, the pulse 90 to 100. He was given at once a mixed antigen containing the above microbes pending the making of an auto-genous antigen. The first dose was 1½ million of each. There was a distinct improvement in twenty-four hours. Forty-eight hours after the first dose he was given 2½ million of each. The next dose of his own antigens contained the same amount, and was given at a similar interval. The doses were continued up to 20 million of each. All his symptoms and physical signs rapidly cleared up so that at the end of ten days he was convalescent. He had no recognizable reactions after any dose, and made an uninterrupted recovery.

CASE III.

A woman, aged 22, became ill on December 25th, 1919. She felt very exhausted and sleepy, and in her sleep talked continuously, was very restless, and had jerking movements of the limbs. She had been overworking, and had had two falls the week previously; she had had a previous nervous breakdown at the age of 16, when she suffered from undue sleepiness; for some time I thought her symptoms could be similarly accounted for. When awakened from sleep she roused with a start, and told me she was very well; after a few minutes her eyes became fixed, the eyelids closed, and she was asleep again, resuming the muttering and restless movements. She roused occasionally, and took food well. She was very constipated, but got out of bed to urinate. At first she used to get up to sit by the fire, but always went to sleep in her chair.

After a time, since the sleepiness was getting worse rather than better and her memory for my previous day's visit was a complete blank, I determined to give her a dose of 2½ million pure influenza antigen. It was given at 10.30 a.m. on January 13th. She was asleep within five minutes of getting it. Two hours after she woke up very excited, nervous, and shivering, and was given 10 grams of aspirin. The unpleasant symptoms passed off in an hour or two, and that evening she was much better, was able to talk rationally, and had no symptoms of lethargy. She slept much more normally that night and was much less restless in her sleep. When I saw her next morning she laughed and talked to me quite naturally. She improved steadily for some days, then began to get sleepy again and the other symptoms returned. On January 20th I gave her 2½ million, and she had the same symptoms as before but to a less extent, and next day was awake smiling and talking to me normally. Three days later, on January 23rd, I gave her 3½ million; she went to sleep after it, and remained lethargic that and the whole of the next day, being roused up to take food and then going to sleep again. Forty-eight hours after she was herself again. Since then she has been given 5 million on February 2nd and 5 million on February 13th; this dose was delayed by three rather severe attacks of palpitation and then an attack of colitis. On February 16th she was given 7½ million and on February 20th 10 million. On February 23rd she was quite convalescent. I shall continue her doses up to 20 million so as to leave a margin of safety. The temperature was normal throughout.

CASE IV.

This was a minor case. The patient, a bank clerk aged 20, had to leave her work early in December on account of feeling ill, having a severe headache and backache, feeling very drowsy and seeing double. When the acute symptoms had disappeared she went back to work, but could not do her work on account of not being able to focus. I saw her on December 22nd; she was then fairly well, with the exception of the diplopia and being very easily tired. I assumed from her history that she was a case of influenza. I gave her three doses of pure influenza antigen, namely, 5 million, 7½ million, and 10 million, at weekly intervals. She had marked general and focal reactions, beginning a few hours after the first two inoculations, becoming so drowsy that she had to go to bed, and slept without stirring. The diplopia was intensified the next day, but then gradually improved until the reaction after the second injection; she had much less reaction after the third, and then improved so rapidly that I found it unnecessary to continue treatment.

I have found that pure influenza antigen rapidly relieves other cases of post-influenzal debility.

No doubt those who do not believe in the specificity of antigen-therapy will question the diagnostic conclusions I have drawn from these cases, and also my belief in the specific therapeutic results obtained. I believe that such results can only be obtained with a specific antigen or antigens, and think the test is just as specific and significant as the subcutaneous tuberculin test.

APPENDICITIS WITHOUT PROTECTIVE STIFFENING OF THE ABDOMINAL WALL.

By JOHN D. MALCOLM, F.R.C.S. EDIN.,

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PROTECTIVE contraction of the abdominal wall over the caecal region is a well known indication of appendicitis, but its importance is sometimes exaggerated. Twice recently it has been suggested to me that appendicitis could not exist because of the absence of this sign. The following case is to the point:

On January 24th a lady, aged 23, being apparently quite well, was seized with intense abdominal pain about 3 p.m. At 5 p.m. Dr. J. A. MacLaren found a round swelling in the appendix region. It was very tender, but the fingers could be pushed deeply into the tissues all round and close to it without causing pain or muscular resistance. The temperature was 102° F., the pulse 100. A dose of castor oil was given, and two days later all swelling, pain and fever had gone. On January 30th I detected only the slightest tenderness at one spot deep in the caecal region. There was no resistance to palpation.

At the age of 3 months and again at 12 years this patient had severe illnesses affecting the abdomen. Occasional stitches in the side and indigestion, characterized chiefly by breathlessness, had been increasingly troublesome within the last half-year. Stone in the ureter was excluded by x-ray examination, and appendicitis of old standing was diagnosed.

When the abdomen was opened, the appendix, except about half an inch at its base, was firmly adherent in a peritoneal pouch behind the caecum. It measured 4½ in. by ½ in. throughout its length, and it was of firm consistence, all its coats being thickened and its canal containing a little soft faeces. It was removed and recovery was uncomplicated.

There is little doubt that this patient had her first attack of appendicitis in childhood. The absence of protective contraction of the muscles was due to the position of the appendix and to the fact that a spreading peritonitis was prevented by the adhesions, which had long existed. In such circumstances the danger is not so great as when the appendix lies free amongst the coils of small intestine. But in this case it would have been a serious mistake to have delayed surgical treatment. The operation was not easy, and it would have been much more difficult and dangerous had it become necessary during an acute inflammatory attack.

A dose of castor oil is sometimes the best treatment for an appendicitis, always provided that an immediate operation can be arranged if this method is not successful, and that the rapid and apparently complete cure which may be effected does not mislead the medical adviser.

A NOTE ON ARTIFICIAL PNEUMOTHORAX,

WITH DESCRIPTION OF A NEW NEEDLE.

BY

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I HAVE been using for many months a pneumothorax needle which has, I believe, several important practical advantages. The ordinary Saugman's needle with which I began to work has an obvious defect. It has no provision for excluding communication with the external air when the stopcock is opened to admit the stylet. This is the more objectionable because the stylet is required just when such communication might be most dangerous, namely, when oscillations of the manometer are absent or imperfect. If the stylet has been successful in clearing the needle and establishing free oscillations, it will be practically impossible to prevent some air from being sucked into the pleura while the stylet is being withdrawn, before the stopcock can be closed, and that air will not be aseptic. Dr. Olive Riviere obviates this difficulty by tying a piece of sheet india-rubber over the open end of the instrument. I believe he uses this either with his own trocar and cannula in primary operations, or for an ordinary needle in doing "refills." I have secured the same object; I believe more effectually and simply, by attaching to the mount of the needle a little stuffing-box like that of a Potain's aspirator. But in Potain's instrument the stuffing-box simply plugs into the mount of the needle. This