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

makes a joint which is apt to be leaky; and moreover, as we have experienced, it is quite possible for the stuffing-box with the stylet to tumble off from the mount of the needle at some extremely inopportune moment. In my instrument the stuffing-box is screwed into the mount, and a washer secures perfect air-tightness. In Potain's trocar and cannula, as usually supplied by the instrument makers, the stuffing-box has a leather packing. I prefer to pack it with cotton-wool which is effectually sterilized when the instrument is boiled. From the stopcock of the needle to the stuffing-box is 4.5 cm. This affords sufficient space to make it quite easy to withdraw the stylet so as to permit closure of the stopcock without risk of bringing the stylet right out of the stuffing-box and so opening communication with the external air.

The form of the end of the needle is very important. The end of an exploratory or aspirator needle is ground upon a wheel, which makes it slightly concave on the surface that is ground, and causes it to end in a sharp point. This is, of course, desirable in instruments of that kind. But it is quite inadmissible in a needle for the induction of artificial pneumothorax. We want an instrument which will pierce the parietal pleura but push the visceral pleura before it unwounded. Obviously no instrument can do this when the puncture happens to be made at the site of an adhesion. But even where there are no adhesions a needle with a fine point will probably wound the lung. What is wanted is a needle with a round cutting edge, rather than a sharp point. This is produced by grinding the end of the needle on a flat hone, instead of a wheel, the result being naturally a perfect oval, which is just the form which is required. As the result of experiment, I have found that an angle of about 22.5 degrees with the axis of the needle (a quarter of a right angle) is best. If it is more acute than that there will be more danger of wounding the lung. An angle of 45 degrees is too blunt. It is apt to push the parietal pleura before it, as I have found to my sorrow.

Needle and Holder.

I have contrived an appendage to the needle, which I have found extremely useful and convenient. I call it the "holder," for want of a better name. The needle passes through it, and is fixed by a nut, which works on a conical screw, like the chuck which fixes a point in a small drill. This part of the holder is attached to the centre of an oval plate, 3.5 by 2 cm. This plate is slightly convex on the side which lies against the patient's chest. In use the holder is slipped on to the needle and adjusted so that the length of needle projecting through the cover-plate corresponds with the estimated thickness of the chest wall. But it is not screwed up so tightly as to preclude the possibility of readjustment *in situ* if that should be found necessary. As soon as satisfactory oscillations occur I give the needle into the charge of my assistant, who is instructed to hold it only by the "holder," which is to be pressed closely to the chest wall. There is then no fear of the needle being inadvertently thrust more deeply in, or partially withdrawn, which is very apt indeed to happen, especially with an inexperienced assistant, or one to whom the process of inducing an artificial pneumothorax is an interesting novelty. Having usually to work with such assistants, I have found the "holder" extremely useful.

The stylet should be long enough to project about a centimetre beyond the point of the needle. It is then sometimes useful as a probe to help us to judge whether we have reached the pleural cavity. In order to be used in this way it must not fit the needle too tightly to move freely in it. For the same reason great care must be taken to keep the stylet perfectly straight. The end of it should be ground perfectly flat so as to make it as fit as possible to push the visceral pleura before it without

inflicting a puncture; but of course the greatest possible gentleness must be used, the stylet being necessarily very thin.

This needle is made in accordance with my suggestion by Messrs. Brady and Martin of Newcastle-upon-Tyne.

DERMATITIS ARTEFACTA IN THE ARMY.

BY

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Not much has been written in this country about dermatitis artefacta in connexion with the army. A single case was shown to the Dermatological Section of the Royal Society of Medicine by Dr. Sibley in April, 1918. The patient was a Russian suffering from an extensive pustular eruption, or folliculitis, which the members present generally agreed was an artefact produced for the purpose of evading military service, and it was stated that this case was typical of many others which had been met with at medical boards. In the army itself, however, apparently not much was seen of these cases, although several medical officers reported that a good many men suffering from impetigo and scabies made the most of their troubles, and did what they could to prevent themselves from getting well too quickly. But there were not very many cases reported of men who were found to be suffering from purely artificial lesions. Dr. MacCormac in his excellent paper on Skin Diseases under War Conditions (May, 1917) mentions a "linear" type of impetigo, of which he gives illustrations, and suggests, as indeed do the illustrations published, that this may be an artefact. During six months in which I had charge of the dermatological cases in Alexandria I saw only one case of dermatitis artefacta, but a large portion of this period was after the armistice, when there was no temptation to produce skin lesions. The one patient I saw suffering from this condition was a simple and typical case. He had numerous lesions on the forearms (both right and left) and also on the shins and the dorsum of the feet, especially on the right. He had been in hospital for some considerable time before he came under my care, and on my giving a very strong hint that I understood the real nature of his disease he permitted the lesions on his arms to heal up quite promptly, but other lesions continued to appear on the right ankle. I had the satisfaction one morning of catching him *in flagrante delicto*. He occupied a tent pitched on sand, and consequently was unable to hear footsteps outside. I approached the tent one morning in the course of my ordinary round, really without any thought of catching him, and I actually surprised him lying curled up on his bed in the act of scratching his ankle gently with the forefinger of his right hand. The lesions were all of characteristic oval shape, obviously scratch marks, with the long axis parallel with the long axis of the limb.

Cases of dermatitis artefacta cannot have been particularly numerous among the British forces. There were certainly more in other armies, and in some instances considerable ingenuity was exercised in the production of the lesions. One of the most interesting papers is by Professor Dubreuilh of Bordeaux. Another is by Burnier, who gives a list of diseases imitated. The list includes the following:

Scabies, imitated by pricking the skin with a needle and rubbing in brine.

Pustular dermatitis by rubbing in croton oil or thapsia.

Eczenatiform dermatitis in various ways; sometimes substances are employed, such as iodoform or mercury, which act by a special idiosyncrasy well known to the malingerer. Other men, not provided with a special idiosyncrasy to some drug, employed ordinary well known irritants, such as turpentine, petrol, sodium sulphide, etc.

Bullous dermatitis was often produced by the use of blistering plants, found especially among the Ranunculaceae and Cruciferae. Chemicals were also sometimes employed.

Abscesses were produced by the insertion of thread, horsehair, or splinters into the skin and the hypodermic injection of turpentine or petrol. The favourite site of injection was the back of the left hand.

Oedema was produced by the use of a ligature, usually a broad tape, because it was less painful than a narrow one. *Bruises* were often produced by repeated tapping with a hard object upon the same place.

Dubreuilh records still quainter examples of misplaced ingenuity. In treating cases of artificially produced ulcers