abscess or gangrenous cavity there is little room for hesitation. But it may be asked, is operation to be commended in the class of cases which I have described? To this I would say that in chronic cases in which no substantial benefit accrues from ordinary methods of treatment, where the copious expectoration must act as a constant drain, and is so insufferably fetid as to poison the patient himself and all around him, I think the operation is justifiable. But when, in addition, there are signs of involvement of the previously sound lung, and the not inconsiderable risk of death from abscess of the brain is kept in view, it becomes a question whether the operation is not only justifiable but necessary. In any case there has always been marked alleviation of some of the most distressing symptoms.

As it happened in my case, although there was nothing in the history of the illness to lead to a suspicion of the presence of a foreign body in the bronchus, the fact that a foreign body was there would have greatly diminished the chances of a favourable result, unless in the event of its finding its way out by the external wound.

I may say as regards etiology, that two other of the twenty-two cases of bronchiectasis I have referred to were due to a similar cause; in one a piece of straw was found, and in the other a tooth which had eluded the dentist in the act of extraction.

As to the surgical method in such cases there is no need to say anything. Nothing can be added to what has been said by Mr. Godlee on the subject in his Brompton Lectures (*Lancet*, vol. i, 1887). It has been recommended that care should be taken, before operating, that the pleural layers are adherent. I think, however, that it will be generally admitted that, however probable the adhesion may be in some cases, its certainty can never be assumed until the incision has been made. In the present case the pleura was adherent, but only to the extent of half the length of the wound. If we had only been fortunate enough to have had the opening made half an inch or so nearer the spine, a completely adherent part would have been incised.

To remedy, so far as possible, the lack of adhesions, the lung was stitched to the chest-wall, but this did not suffice to prevent septic material from getting into the non-adherent part of the pleura and setting up a limited empyema.

THE TREATMENT OF RECENT PLEURITIC EFFUSION BY THE ADMINISTRATION OF SALINE CATHARTICS.

By P. BLAIKIE SMITH, M.D.,

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THOSE whose general practice it is to treat cases of considerable pleuritic effusion by tapping the pleural cavity must confess that, not infrequently, the fluid reaccumulates, and that it occasionally becomes purulent. Recognising the truth of this clinical observation, I have for some time past discarded operative interference in such cases, relying, for the relief of the effusion, upon the effects produced by saline cathartics, administered in a manner which I shall indicate presently. The exact physiological action of this class of drugs is beyond the scope of the present paper. Suffice it to say that, primarily, they induce watery evacuations from the bowels, with the necessary result that the blood becomes inspissated and absorption stimulated, and hence their well-known utility in the removal of dropsical conditions. Bearing in mind this fact in therapeutics; recollecting, too, that serous exudations have been known to disappear during an attack of cholera (when the blood is to a great extent deprived of its watery element), and that the simple withdrawal of fluids from the diet has been advocated as curative of pleuritic effusion, it seemed reasonable to suppose that if a patient, the subject of this complaint, were starved of fluids and purged by salines, the resulting concentration of the blood would be remedied at the expense of the effusion. In this expectation I was not disappointed, as will be seen from the notes of the following cases treated in accordance with the theory set forth above.

The first case was that of a spare-looking man, aged 28, who was admitted into the Aberdeen Royal Infirmary on January 26th, 1887, suffering from acute pleurisy, with extensive effusion on the left side. The chest gave a dull percussion note up to the second rib, and the heart was beating away to the right of the sternum. The temperature was 101°. For five days after admis-

sion, he was treated by the administration of alkaline diuretics, along with the application of counter-irritants. At the end of that time, however, as there was not the slightest improvement in his condition. I determined to try the effect of saline cathartics. Accordingly, on February 1st, I ordered him to have, twice a day, two drachms of magnesium sulphate, dissolved in as small a quantity of hot water as possible, and directed that he be almost starved of fluids, taking care on this head to explain to the patient the object of this (to him) somewhat extraordinary procedure. In passing, I may mention that magnesium sulphate was the saline chosen, partly from its effective cathartic properties, and partly from its great solubility, for it is dissolved in less than its own weight of hot water. The effect of the treatment was soon apparent, and, without going into the gradual changes that took place in the physical signs, it will be sufficient to state that in eleven days all evidences of effusion had disappeared, and that the heart was restored to its normal position. As was to be expected, the secretion of urine underwent marked diminution during the time the patient was under the cathartic treatment, and it is interesting to note that the amount became more than physiological soon after the drug was discontinued.

The next case was that of a robust-looking fisherman aged 28, who was admitted to the Infirmary on May 19th, 1888, complaining merely of debility. On physical examination of the chest, however, there were signs of great pleuritic effusion on the left side. Skodaic resonance was unusually distinct, and the heart was seen pulsating in the right third interspace. There was no increase of temperature. Without spending time in any preliminary treatment, the patient was ordered on May 22nd to have twice a day half an ounce of magnesium sulphate dissolved in the minimum quantity of water necessary for solution, and, as in the previous case, the ingestion of fluids was restricted. Free purgation rapidly ensued, and on May 24th cardiac pulsation was faintly visible in the left fourth interspace close to the sternal edge, but it was still to be seen, though less distinctly than upon admission, to the right of the sternum. Skodaic resonance was now greatly diminished, and the other signs of effusion were much less evident.

On May 29th it was noted that the apex of the heart was beating vigorously in the left fourth interspace midway between the nipple and the sternum (apparently the normal situation in this patient, for there it subsequently remained); skodaic resonance could no longer be elicited; all signs of effusion had disappeared, and loud pleural friction was audible at the extreme base of the lung posteriorly. Within a week from this date the last traces of friction vanished, and the patient was discharged.

In bringing before the profession the treatment of pleuritic effusion by the administration of saline cathartics, as illustrated by the foregoing cases, I trust that I will not be understood as recommending its indiscriminate adoption. Patients of poor physique or in whom a phthisical tendency exists are obviously ill suited for this plan of treatment, and I need hardly mention that when dyspnoea is an urgent symptom, especially when accompanied by signs of collateral hyperæmia or œdema, the use of the trocar gives more speedy relief than that afforded by free purging. Still, one meets with many cases where the effusion is large and of recent occurrence, where dyspnoea is not pronounced, and where signs of physical and constitutional debility are absent, and these are the cases which seem to me to be peculiarly adapted for treatment by the method which is the subject of this paper.

SUPPURATING HYDATIDS OF LIVER: INCISION AND DRAINAGE: RECOVERY.

By WILLIAM S. PAGET, M.D. LOND., M.R.C.P.
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THE following case, I think, presents some features of interest at the present time, when the surgery of the liver is attracting considerable attention.

W. P., a young man, aged 18, a grocer, resident in the Isle of Man, began to be unwell about the end of March, complaining of shivering, sickness, feverishness, with pain in the right side; no cough, but considerable dyspnoea. He was seen by a medical man and pronounced to be suffering from indigestion and bilious-

ness. After being off work a fortnight he made an attempt to resume it, but could do very little, and finally gave up altogether; and, during the two weeks prior to his leaving the Isle of Man, felt very ill indeed, suffering from frequent shivering, perspirations, pain in the right side, and dyspnoea. He arrived here (where his parents reside) on May 8th, about six weeks from the commencement of the illness, according to his own calculation. He walked down to my house (a quarter of a mile) the next morning, but was much exhausted. There was considerable emaciation; respirations 36, and very laboured; pulse 124; temperature 101°. No signs of any pulmonary mischief, but bulging over the hepatic region, most prominent just below the ribs, to the right of the ensiform cartilage. Dulness upwards to the third rib on right side, and extending across to left side at same level, and merging in the cardiac dulness. The apex of the heart was displaced two inches directly outside the nipple. The dulness below was within a couple of inches of the umbilicus; behind it reached the middle of the scapula on right side. A puncture with a fine aspirating needle, at the most prominent point, revealed the presence of pus, about half an ounce of which was drawn off, of greenish tint and somewhat sickly odour. Thus, the diagnosis of abscess was established; but the origin of it only conjectural, suppurating hydatids, however, being suspected, as there was no history of anything else that could have caused an abscess in the liver.

May 9th (the following day). I aspirated with a large trocar and cannula, and removed nearly three pints of pus. The tubes then became blocked with gelatinous pieces of membrane, and no more pus could be evacuated. The character of the contents of the abscess made the diagnosis tolerably certain, and it was placed beyond doubt by the discovery, upon microscopic examination, of one or two hooklets. Respiration was much relieved by the operation, and the temperature fell to normal for a couple of days. On May 14th, however, phlebitis commenced in the left leg, and there was much tenderness and swelling of the whole limb, with a temperature of 102.5°. There were also the physical signs of refilling of the abscess.

May 17th (eighth day after aspirating). Being kindly assisted by Drs. Matthews and Tooker, I made an incision over the most prominent part of the swelling, just below the ribs, an inch external to the tip of the ensiform cartilage; there were no adhesions whatever between the liver and the abdominal parietes, so several silk sutures were introduced to unite the two, antiseptic dressings used, and tolerably firm pressure applied to keep the parts as quiet as possible.

During the succeeding four days there was no change of consequence, the wound remained perfectly healthy, the phlebitis in the left leg gradually improved; temperature 100° to 101°.

May 22nd. Phlebitis occurred in the right leg, but not so marked an extent as in the left.

May 23rd. The sixth day after the preliminary operation, firm adhesions having formed, the abscess was opened and a large drainage-tube inserted; about fifty ounces of pus were evacuated, and numerous pieces of jelly-like membrane; the sac was well syringed out with weak iodine, and antiseptic dressings employed. Great relief followed the operation, the temperature becoming normal the second day afterwards; for three days the discharge was most abundant, consisting of pus and membranes; the side was strapped firmly to favour contraction of the cavity.

May 27th. Great discharge of bile, together with broken down orange coloured cysts; scarcely any pus. This continued during four days, there being as much as twenty to thirty ounces of apparently pure bile discharged per day. During this period there was complete absence of bile from the intestine, the motions being perfectly white.

May 31st. Bile appeared again in the stools; on previous evening there had been given a dose of grey powder and rhubarb.

During the following week the discharge consisted of mixed bile and pus, the quantity daily diminishing, so that on June 8th the cavity only held six ounces.

June 14th. A semi-solid mass of cysts came away suddenly, filling half a teacup, brilliant orange in colour; this was the last of the cysts.

July (early). The cavity only held half an ounce. A month later it was converted into a sinus three or four inches in length; and the patient, who three months before looked at death's door, now presented the appearance of robust health.

REMARKS.—The case illustrates the success of the plan (now, I believe, generally adopted) of performing at twice these operations on the liver. In this instance, though the tumour was

moderately prominent, and an aspirating needle had been twice introduced, an incision carried through the same point revealed no adhesions. In the absence of any urgent symptoms, it would seem wise to allow six or seven days to elapse between the operations, in order that firm adhesions may form. The chief points in the after-treatment are, doubtless, efficient drainage and thorough cleansing of the cavity with antiseptics, together with firm strapping of the side to promote contraction. A curious feature of this case was the passage of the whole of the bile externally during four days, there being coincidentally an entire absence of pus. Subsequent to this the quantities of bile and pus were in inverse ratio, thus showing the powerfully antiseptic qualities of the former.

NASO-LARYNGEAL INTUBATION IN DIPHTHERIA, ETC.

By J. JAMES RIDGE, M.D., B.S.LOND.,

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As the subject of the operative treatment of diphtheritic asphyxia has been prominently dealt with in recent numbers of the JOURNAL, I venture to describe a new form of intubation which obviates many of the difficulties attending "intubation," especially that of withdrawing the tube. I have performed this operation four times, twice on one patient, and this, of course, is not a large experience. It is enough, however, to show the possibility of the operation, and I have been withholding the publication of this new method in the hope that I might have the opportunity of performing it on other cases, and with better success. For all the patients died, though not before it was clear that the operation had snatched them from imminent death three or four days previously, and, in one case, with such good promise of success, that I think it will be admitted that the operation is not only justifiable, but so promising that it deserves further and extensive use, with such additional precautions as my small experience has already suggested and future trials may indicate.

The operation is accurately described as naso-laryngeal intubation. The first case was that of a child of three years old, to whom I was called in consultation by Mr. Shaw, of Enfield Highway. There were the usual symptoms of diphtheritic croup and impending suffocation. Chloroform was administered, and a piece of wood held between the teeth as a gag. I then passed an ordinary piece of black unvulcanised milk-tubing along the nostril, first having anointed it with vaseline. I then passed my right forefinger into the mouth to the back of the pharynx, and hooked it round the end of the tube. A very little manipulation was sufficient to guide the tube into the glottis, the tube being pushed along the nose by the left hand. The air immediately began to enter and leave by the tube and some mucus was coughed out of the tube with considerable violence. The breathing was evidently relieved, but after about twenty minutes, during a fit of coughing, the soft india-rubber tube was expelled from the larynx, and bent so that the end came into the mouth. It was, of course, at once withdrawn. But even this imperfect operation gave relief. The death by imminent suffocation was averted, probably because the collecting mucus was got rid of through the tube, and the patient lived two days longer.

It was evident from the above case that the soft rubber tube was not the right kind to use, and I accordingly obtained an ordinary No. 10 gum elastic catheter, with an opening at the end, such as is used with a catgut guide. A suitable case presented itself on March 17th, 1888, when I was called in by Dr. Wood, of Enfield, with a view to the operation of tracheotomy on a boy, aged 7, who had been suffering from pharyngeal diphtheria since March 11th, with enlargement of the cervical glands. The larynx had been invaded on March 15th, and on the morning of March 17th suffocation was evidently impending, the chest walls and supra-sternal fossa being drawn in at every inspiration, with occasional struggles for breath. With Dr. Wood's consent, and while he administered chloroform, I passed a large catheter with open end along the nose and into the larynx, in the manner before described. There was at once the same expectoration of frothy fluid coughed with much violence through the tube, through which, however, air passed freely, as could be felt with the hand, and was shown by placing a flame near the end of the catheter. But in addition to this, it was clear that the presence of the tube in the larynx so distended the glottis that the air could pass outside the tube quite as much as through it, and, when the effects of