

the difficulty in these chronic cases is frequently largely due to the presence of much scar tissue. This apparently is particularly abundant in streptococcal infections. By its contraction the fibrotic tissue interferes with the local blood and lymph supply, with the result that the contained antibodies, however abundant they may be, cannot come into contact with the infecting bacteria. The local treatment of these chronic sinuses consisted, as a rule, in the use of gauze drains soaked in hypertonic citrated salt solution, as recommended by Sir Almoth Wright.

The value of vaccines in cases of chronic suppuration is too well known to need much comment, and the results of treatment in these cases may be briefly summarized thus:

Taking an average, the time that suppuration had been going on in these 13 cases was fourteen weeks each, and they were discharged cured in an average time of five and a half weeks each from the commencement of vaccine treatment.

In one case there had been recurrent abscesses for fourteen months, and the breast was a mass of fibrotic tissue—a pure culture of streptococcus was present in this case, and cure was only complete after six months' treatment.

In another case sinuses had been present for eight months, and the patient was discharged cured in five and a half weeks.

In two other cases of six months' duration cure was complete, in one case in two and a half weeks and in the other in five weeks.

These numbers are exclusive of one case, in which treatment was discontinued. No improvement whatever was effected by several months' use of autogenous vaccine. This was a case of streptococcal infection, and the breast was riddled with sinuses. Drastic surgical measures were finally resorted to and a cure is now (November, 1910) almost complete.

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ERYTHEMA NODOSUM FOLLOWING MEASLES.

BY

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DURING the epidemic of measles which has been prevalent in Lewes since last November, I found 2 cases of erythema nodosum which occurred during the convalescent period. At the same time Dr. G. Birch found 7 cases, also following measles, as to which he kindly gave me information. Unfortunately no notes were made at the time of six of these, so no detailed account of them can be given. In most of the cases about ten to fourteen days had elapsed since the first onset of measles before the erythema nodosum made its appearance. In half the cases the first symptom was pain in the joints, followed by the erythema in about twenty-four hours. There was no history of rheumatism or contact with rheumatic fever in any of the cases, and no rheumatic or cardiac lesions were found in any of the patients. The question of sore throat before or at the time of the measles rash was carefully gone into, but it was present in one case only.

CASE I.

G. H., aged 8 years. No previous illnesses. On December 2nd a typical measles rash appeared, which was well marked in twenty-four hours; temperature 105°; a sharp barking cough, and bleeding of the gums; no sore throat; temperature normal in three days. On December 9th the patient got up, feeling very well. On the 13th he complained of pains in the shoulders and knees, followed in twenty-four hours by well-marked erythema nodosum on the shins, which disappeared quickly with salicylates and rest in bed. He was quite well two months later.

CASE II.

D. H., aged 6 years. A delicate girl, no rheumatic history. On February 1st a measles rash appeared. The temperature at

night was 105°, and was normal in twenty-four hours. The throat was very much injected and painful, accompanied by an irritating cough. There was no bleeding of the gums, and the rash was never well marked. Patient was making a good recovery until the 16th, when pains in the joints were complained of, followed in thirty-six hours by erythema nodosum on both shins, which was very painful. The rash and joint pain yielded readily to salicylates.

CASE III.

J. W., aged 8 years, a weakly boy, often having attacks of tonsillitis or bronchitis. On December 12th the measles rash appeared; temperature 103°; no sore throat but an irritable cough; the rash was never profuse. He was up again in five days, and did well till the 24th, when he complained of pains in the ankles and knees, followed in eighteen hours by the erythema on the shins, outer side of the thighs, and the back of both arms. Salicylates quickly cured the condition.

As far as I know no other cases of erythema nodosum have occurred in the sphere from which these cases have been collected. Seven of the cases occurred among the poorer class attending the hospital, and two were private patients in fairly good circumstances. These 9 cases have been collected from 300 cases of measles, but many other cases of measles have occurred in the town of which no account has been obtained.

A CASE ILLUSTRATING THE VALUE OF SURGICAL TREATMENT OF PULMONARY CAVITIES.

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ON May 4th, 1889, I reported in the *JOURNAL*, p. 994, a case of pulmonary cavity treated surgically with success, and, although cases of empyema have occurred by the score in my practice in the interval, I have found but one other case beside this now reported in which opening a pulmonary cavity and treating it surgically seemed indicated.

That it is useful and fairly safe in non-tuberculous cases where the cavities are but few in number seems established, and the following case is an illustration of its application:

P. T., aged 16 years, was brought to the Devon and Exeter Hospital from a cottage hospital in North Devon, where he had been for six months. Beyond that he had been very ill and feverish, no definite history could be obtained. He arrived here on August 6th, 1910, complaining of cough and pain in the right side of chest. He appeared ill—eyes bright, cheeks flushed, temperature 104.2°, pulse 136, respirations 36. He stated that he was getting better until the week prior to his admission, when the cough came on with fever.

The report on the condition of his chest was that there was dullness over the lower two-thirds of the right side of his chest, and posteriorly, with moist gurgling sounds. Whilst being examined the lad complained of wanting to expectorate, and immediately coughed up a large amount of pus.

This expectoration continued daily for several weeks, and was noted as being extremely offensive. At this time he filled the ordinary spittoon twice or three times a day, and he must have got rid of 6 or 8 ounces of muco-purulent material every twenty-four hours. His breath was very objectionable also. His temperature ranged from 101° to 97°, rising to 103° on August 22nd, but falling to normal the same evening. The dullness behind now seemed lower down, whilst rhonchi could be heard over the right apex. Moist sounds could be heard at the right base. He was losing flesh. It was thought that probably the condition was a chronic form of catarrhal pneumonia, and that possibly a local empyema had occurred, and he was transferred to the surgical wards.

On first seeing the case it occurred to me that the symptoms would be accounted for if he were expectorating an empyema through the lung. After waiting a reasonable time I concluded that an operation, consisting of the removal of several of the ribs and opening and draining the pleuron, would give him most relief. I operated on September 18th, and on coming down on the pleuron it was obvious no empyema existed. Introducing the finger I found a few adhesions, but on palpating the lung no hardness betrayed the whereabouts of a bronchiectasis. About an inch of the fourth, fifth, and sixth ribs was excised.

I hoped that one result of this operation might be adhesions between the lung and the parietes, for one great difficulty in treating these cases surgically is the withdrawing of the lung from the wound, from air entering in the pleural cavity. The wound was therefore stitched up, and shortly healed. The effect of this operation was not very marked, although it cleared up the diagnosis. Yet the offensive expectoration occurred regularly, and the lad became blue and strangled

from the thin purulent material becoming sucked down the bronchi of the other lung. This was also a very alarming condition during each of his operations, oxygen being used on two occasions.

On October 29th I reopened his chest, but anteriorly, for his moist sounds and bronchophony were best heard at about the interval between the fourth and fifth ribs on the right side, very near the nipple. On this occasion I succeeded in introducing the aspirating needle into the pulmonary cavity. This opening I enlarged with Lister's long sinus forceps, but, owing to the retraction of the lung, I was unable to drain it as I wished with an india-rubber tube. A tube was kept in the pleuron in the direction of the cavity in the lung, and the air allowed to enter with each inspiration, for it was argued that by causing collapse of the lung the pulmonary cavity would be considerably decreased in size, whilst adhesions would occur between the lung and the anterior parietes. No marked benefit followed this operation, and the amount of expectoration was not materially lessened or otherwise altered, whilst the range of temperature was from 99° to 102°.

On November 19th the wound was opened up, a rib excised anteriorly to the extent of 1 in., and a determined effort made to drain the bronchiectasis; a tube was introduced into it, but the movements of the chest walls in respiration prevented it from staying there. Highly offensive matter flowed from this wound in a day or two, and a corresponding decrease was expectorated, and the boy's condition improved; the temperature became normal, and the drainage tube was left out on the tenth day. Gradually he gained weight and all expectoration ceased.

On December 2nd the right side of the chest was exposed to the action of x rays, which was repeated twice a week—four exposures in all. He then left the hospital to spend some weeks at Torquay, air at that time entering both lungs freely, pleural friction sounds being heard at the lower portion of the right lung, both back and front, whilst he had gained 1 st. in weight.

This case presented one or two special points of interest. Thus, there were no adhesions found strong enough to prevent the lung from retracting from the wound. Neither was there anything to guide the palpating finger to the dilated bronchus.

Again, the movements of respiration, so much exaggerated anteriorly as compared to the movements of the ribs posteriorly, repeatedly pulled out the tube from the bronchiectasis, for although the latter was carefully mapped out prior to operating, as soon as air entered the pleuron the bronchiectasis was drawn upwards and towards the mediastinum.

The operation was therefore divided into three stages. On the efficient drainage of the bronchiectasis being established, the temperature fell to normal, and remained so with cessation of all sweatings.

Lastly, the collapsed lung and injured pleural cavity were subjected to x rays for twenty minutes on four occasions.

Probably this case could not have been tuberculous, or the lung and sinus tracks would not have healed so well; but the quick ending of the case and restoration of the lung for breathing purposes was in my estimation materially helped by this procedure.

THE USE OF SCOPOLAMINE-MORPHINE IN LABOUR.

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In view of the interest that is now being taken in scopolamine, I have thought that my experience with this drug may be of value. Its power to produce analgesia in labour is now generally known, but unfortunately in many cases this result is only obtained with the risk that the child will be born in a state of apnoea. The following results will, I hope, suggest how this danger may be avoided.

Dosage.

The compound tabloids of Messrs. Burroughs Wellcome were employed; these are in two strengths—"A," scopolamine $\frac{1}{100}$ grain, morphine $\frac{1}{2}$ grain, and atropine $\frac{1}{100}$ grain; "B," scopolamine $\frac{1}{100}$ grain, morphine $\frac{1}{4}$ grain, and atropine $\frac{1}{100}$ grain. In all cases the drug was administered subcutaneously.

Analgesic Effect.

Of 20 cases, 4 exhibited complete analgesia, none of them remembering anything of the birth of the child.

Three of these had one dose of "B" only, and the fourth had one dose of "A" followed two and a half hours later by one of "B"; in this case forceps were employed for delivery without chloroform. The patient was unaware that anything of the kind had been done.

In 13 there was a marked effect, the patients sleeping between the pains which caused little suffering. In 3 the effect was slight or absent.

Influence on Uterine Contractions.

In 4 cases in which inertia apparently followed the injection it is probable that primary inertia had been present throughout, masked by the distress of the patient. Where delay occurred during the second stage, it was clear that this was due to the absence of voluntary effort.

The Effect on the Fetus.

My cases seem to show that where delivery occurred at four hours or less after the injection the child was invariably affected to a greater or less degree. The only exceptions to this were 2 cases in which the drug was without any effect upon the mother whatever.

Of the 20 cases described above, only 18 can be counted so far as the effect on the child is concerned, because one of them was a case of twins and in another the infant was premature. Of these 18, in 9 the child was born perfectly normal; in these delivery occurred 13½, 9, 7½, 7, 6, 5½ and 4½ hours respectively after the injection. In the 2 cases already mentioned delivery occurred one and three-quarter hours and half an hour after an injection which was without any effect on the mothers.

In 7 cases the child was born sleepy and slightly cyanosed. They all responded to gentle stimulation, and never gave any anxiety as to their rapid recovery. Delivery occurred 3, 2½, 4, 1½, 2, 4, and 1½ hours respectively from the time of the injection. All the mothers received one dose of "B" only, except the last, who had a second injection of "A."

In 2 cases the child was badly asphyxiated. In the first the mother received two injections, the first of "B" and the second of "A," and the child was delivered with forceps three and three-quarter hours from the second injection. It was not breathing, was cyanosed, and the heart was beating very slowly. A hot bath was given and artificial respiration employed, with the result that recovery ensued in twenty minutes.

The second case was one marked by an extremely tedious and distressing first stage, and shows the value as well as the dangers of scopolamine.

The patient was a primipara, aged 23. Labour started on April 22nd, and the pains were so severe as to prevent her sleeping the same night. On April 23rd distressing pains continued, rendering her hysterical. In the evening, when examined, the os barely admitted the finger, and the abdomen was extremely distended, looking like a case of hydramnios. She was admitted the same night. In the morning of April 24th she had an injection of "B," and slept for five hours. Towards evening she again became very hysterical; the os only admitted two fingers, and so, other methods of pacifying her failing, she received another injection of "B" with good result. At midnight the membranes were ruptured artificially, as it seemed likely that there was an excess of liquor; this, however, was not the case. At 2 a.m. on April 25th she again became assailed by violent and distressing pains, and became very noisy. As the os was not yet three parts dilated she received another injection of "B," with the result that she slept until 5.15 a.m., hardly noticing the pains, and was almost unconscious of delivery at 5.45 a.m., three and three-quarter hours from the last injection, and about seventy-two hours from the onset of labour. The child was large, and weighed nearly 10 lb., thus accounting for the size of the abdomen. It was badly asphyxiated, being cyanosed and making no endeavour to breathe. It was put into a hot bath, brandy and ether injections given, and artificial respiration was kept up for forty-five minutes. Fortunately recovery was then rapid, and the child did extremely well later.

Thinking that the morphine was mainly responsible for these cases of asphyxia, I tried combining strychnine with the mixture, $\frac{1}{2}$ grain with the "B" injection and $\frac{1}{100}$ grain with the "A"; these doses for the sake of brevity I will call "BS" and "AS." The strychnine did not seem to mitigate the good results on the mother. In one case there was but little effect, but in the rest the result was good. Three of the patients had complete analgesia; the others were distinctly relieved.