by Caesarean section at the same time as the main operation is done. In infective cases hysterectomy would be substituted because of the risk of infection of the puerperal uterus and general septicaemia, and thus would add materially to the time taken in the operation and to the shock entailed.

Generally speaking, the rule should be that the minimum operative procedure that will meet the needs of the case, and the one that can be performed in the shortest time, should, so far as possible, be selected. There should be as little disturbance of the uterus as possible.

In addition to reasons already given, the prognosis in pregnant women is rendered graver by the possibility of abortion or premature labour following the acute abdominal condition or the operation done for its relief. Abortion or premature labour is liable to result in a generalized infection in septic cases or cases with a septic focus. Manipulations for retained placenta or other procedures involving pressure on the abdomen also add to the risk of spread of infection.

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THE THYROID AND MANGANESE TREATMENT IN ACUTE PNEUMONIA.

BY

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HAVING been much interested in the account given by Dr. H. W. Nott¹ of his treatment for acute pneumonia by rectal injections of a solution of potassium permanganate, I decided to try it when occasion arose.

An outbreak of measles in Southsea during the end of last summer allowed me to test the method sooner than I expected, and with such satisfactory results that the following notes of five cases will, I think, be read with interest.

CASE I.

A girl, aged 5½ years, had been ill with measles five days when first seen; the rash was vivid on the trunk and legs but was fading on the face and arms. The respirations were rapid and shallow, cough was severe, the lips were blue, and the complexion cyanosed; the temperature was 103°. Well developed signs of

FIG. 1.—Case I.

bronchopneumonia were found in both lungs. A fresh solution of potassium permanganate was prepared of the strength of two grains to one and a half pints of hot water, and three ounces were injected three times during the ensuing twelve hours. Sixteen hours after the first injection was given I found the

child decidedly relieved. Her colour was better. I was told she had been quieter during the night, having slept uninterruptedly for two hours. After similar injections had been given every four hours throughout the next twenty-four hours I found her greatly improved. She had had six hours of continuous sleep during the night, cough was less frequent, easier and looser, and her expression and complexion were better. The respiration and pulse rates had slowed considerably, whilst her temperature was falling satisfactorily. Injections were continued at six-hourly intervals for three days more and every twelve hours for another four days, when they were stopped. Convalescence was rapid and uneventful. (See Fig. 1.)

CASE II.

An infant, aged 15 months, was in its seventh day of measles. Both lungs were affected with bronchopneumonia, more marked on the left side. The general condition was serious, as the child, worn down by a week's illness and considerable diarrhoea during the previous twenty-four hours, was restless, refusing feeds, and markedly cyanosed; the temperature was 103.4°. After washing out the rectum with sterile hot water, injections of two ounces of the solution were given three times in twelve hours. The harsh

FIG. 2.—Case II.

and incessant cough became easier when the third injection had been given and there was an improvement in the child's appearance. During the next three days injections of the same quantity were given every four hours. Rapid improvement took place, the restlessness, cough, and temperature all lessened, and feeds were taken willingly. Injections were now reduced to two a day for a few days longer, and convalescence was rapid with no complications other than the retention of a little urine, which was easily relieved by seating the child in a basin of hot water. (See Fig. 2.)

CASE III.

A girl, aged 4 years, was seen on the sixth day of measles. Both lungs were extensively affected with bronchopneumonia, and owing to the extreme cyanosis and her general low condition it was impossible not to give a very bad prognosis. Permanganate injections were administered at once, three ounces being ordered every four hours. The following day her condition was much the same, though the cyanosis was not quite so marked. Injections were now ordered to be given at three-hourly intervals, and

FIG. 3.—Case III.

sixteen hours later—at 4 o'clock in the morning—the child was reported "to have taken a change." Seeing her at 9 a.m. I found the change remarkable indeed. In place of the almost violet-coloured complexion her face was a rosy pink colour, the cough was easy, the expectoration was being raised, whilst her temperature, pulse, and respirations were all declining rapidly. Further treatment was carried on in the manner described in the first two cases; improvement quickly took place and convalescence was again rapid and uneventful. (See Fig. 3.)

CASE IV.

A boy, aged 7 years—brother to the preceding case—was found with a measles rash during my first visit to his sister. He looked ill, and fine crepitations were to be heard at the bases of both lungs. Four-ounce injections were ordered every four hours. Eighteen hours later the condition was unaltered, but twelve hours later still he broke out into profuse perspiration and his

temperature dropped suddenly to nearly normal. A few hours later I found him quite happy and playing with his toys. His convalescence was also uneventful. (See Fig. 4.)

FIG. 4.—Case IV.

CASE V.

A youth, aged 17, very well developed and engaged as an errand boy, was taken ill in the evening with a rigor and with pain in the right side of his chest. Examined thirty-six hours after the onset he showed well marked signs of acute lobar pneumonia, with dullness, crepitations, and rusty sputum. Injections of four ounces of permanganate solution were given at four-hourly intervals for twenty-four hours. As these were easily retained the dose was doubled throughout the following twenty-four hours. Forty-eight hours after beginning treatment I found a remarkable change in his condition. His look of distress had changed to an expression of content. He no longer complained of pain. His respiration rate had dropped from 28 to 18, his pulse from 110 to 93, whilst his temperature had fallen from 103.5° to 101.8°. His cough was less troublesome, and he was able to lift profuse expectoration with comfort and ease, which rapidly lost its rusty colour. He made a quick and uninterrupted recovery, and with the exception of doses of compound ipecacuanha powder in combination with aspirin, in the early stages, he had no other drug treatment throughout his illness. (See Fig. 5.)

FIG. 5.—Case V.

Although it may be unusual to report so small a number of cases in support of a new line of treatment, the circumstances surrounding these cases seem to make it desirable to do so. I undertook the treatment with some misgiving, but, to my surprise, case after case confirmed what the co-workers at the Ellesmere Port Cottage Hospital had seen, and the temperature charts in my cases seem to follow closely those which illustrated Dr. Nott's paper.

As most practitioners have experienced a disappointment caused by the failure of this or that treatment for pneumonia, it was pleasing to me to find a remedy doing exactly what it had been described it would do; the value of this set of cases is enhanced by the fact that my patients were all treated in their own homes, with ordinary home nursing, with no other medicine, in the case of the children, than a light diaphoretic mixture.

The ease and certainty with which these rapid results were brought about has determined me not in future to allow a human being, and for that matter any animal I cared for, to perish from the toxæmias of pneumonia without attempting to help them by this method.

Believing, too, that we are likely to learn more as to the limitations of this treatment from numbers of short reports coming from general practitioners, working under different conditions, than from a long report drawn up under institutional conditions, I present this for what it is worth; if it should be the first I hope it will soon be followed by others, for by this means we may hear how other complications (otorrhoea, empyema, and meningitis) dependent upon the pneumococcus fare under the permanganate treatment.

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THE EARLY TREATMENT OF POLIOMYELITIS.

BY

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POLIOMYELITIS is an endemic disease which occurs in this country periodically in epidemic form. Its importance justified a discussion at the International Congress in 1913, which was opened by the late Dr. F. E. Batten, whose teaching at the Hospital for Sick Children, Great Ormond Street, in 1912 and 1913 is the accepted doctrine to-day.

In 1921 there was a discussion on the early diagnosis and treatment of acute poliomyelitis at the annual meeting of the British Medical Association (JOURNAL, 1921, vol. ii, p. 225). The discussion was opened by Dr. Farquhar Buzzard, who said that at necropsies which he had attended the cord and membranes in the affected areas had been found to be intensely inflamed and congested. I mention this because it has an important bearing on treatment. In the course of the discussion it was stated that there was no specific drug in the treatment of the disease, and that electrotherapy was harmful in the acute stage, being of use later only as an adjunct to orthopaedic treatment. Treatment on general principles during the febrile stage was advocated, particular attention being paid to warmth and quiet. When the febrile condition had subsided splinting was advised to prevent contractural deformities, to be followed by massage, remedial exercises, and electrotherapy. Where the recovery was incomplete various surgical procedures, such as stabilization of joints and transplantation of tendons, were advocated.

It will be remembered that in 1922 Sir Robert Jones gave an authoritative address on the treatment of paralysis in children to the Section of Diseases of Children of the Royal Society of Medicine (BRITISH MEDICAL JOURNAL, 1922, vol. i, p. 705). My present purpose is to deal only with the early treatment of the disease.

Some three years ago the first early case of poliomyelitis was admitted to the Hartshill Orthopaedic Hospital for treatment. Up to July of last year eight early cases had been referred. Since July, 1926, fourteen early cases have been treated here, all on the same lines, and the results are good.

During the last six years I have seen several hundreds of practically untreated patients who have attended this hospital with deformities of the most disabling type, yet presenting the same initial history as the early cases. On comparing the end-results the conclusion reached is that co-operation between the physician and the orthopaedic surgeon is essential from the very onset of the disease. By this means alone will the prevention of most of the deformities in each case be achieved.

The first indication for treatment in an early case of poliomyelitis is immobilization of the inflamed part. This can best be done by fixing the patient on a Thomas's straight frame with head-piece, thereby immobilizing the head and spine. This may seem a drastic measure, but the results, as detailed in my notes of the cases, justify the procedure. Fixation on a frame is our routine method of treatment in all early cases, even if the initial paralysis or paresis is slight. Pain is often a very distressing symptom in the early stages, and has been regarded as intractable. Our experience is that pain rapidly subsides as soon as the patient is immobilized on a frame.

The second indication for treatment is the prevention of contractural deformities. These are caused by unequal muscle balance, and are prevented by fixing the paralysed muscles in relaxation, the fixation being maintained until they are sufficiently recovered to hold their own against their antagonists. The Thomas frame is an ideal splint for fixing the head, trunk, and lower limbs in the position of selection. It leaves the arms and feet to be dealt with if necessary. This is done by moulding a plaster-of-Paris splint to the affected part, and fixing it to the metalwork of the frame. The patient is kept immobilized on the frame until the inflammatory condition of the cord has subsided and the amount of damage to the musculature can be ascertained. The frame is then gradually discarded, and