figures were 69, 37.5, and 31.5. According to the Registrar-General's records, deaths during the first month are mainly due to birth injuries and prematurity.

Probably much can be done to reduce mortality by improved methods at and after birth, but ante-natal treatment is the real remedy. The future of successful obstetric practice lies in skilled supervision during the ante-natal period. It is obvious that an infant whose mother has suffered during pregnancy from toxæmias or any constitutional disease has a reduced vital capacity. Any form of ante-natal treatment, therefore, which improves the mother's general condition and reduces the possible complications of labour will have a marked effect upon the newborn child.

Ante-natal correction of malpresentations, the treatment of cardiac complications by rest, the reduction of pain by the administration of sedatives during labour, and the stimulation of a failing foetal heart by strychnine, strophanthus, etc., must have a beneficial effect upon the welfare of the infant.

SHOCK IN THE NEWBORN.

The treatment of white asphyxia demands fresh consideration. As a rule blue asphyxia can be treated by clearing out the air passages and stimulating the skin reflexes.

In white asphyxia the usual method is to clear the air passages and immerse the infant in a warm bath, sometimes with the application of cold water to the head, followed by artificial respiration of varying and progressive degrees of severity, finally culminating in the Schultze method. This arduous effort probably satisfies the obstetrician that if he has failed to restore the infant he cannot be blamed for not having exercised his energies to their utmost capacity.

The late Dr. Gordon Ley pointed out that in such cases attention should be directed, not to establishing respiratory movements, but to relieving cardiac failure due to shock, usually caused by cranial compression, or in some cases by pressure upon the umbilical circulation. This is, I think, the correct view. The greater the strain upon the mother during labour the greater the shock to the infant. Respiration cannot be induced until the heart has adapted itself. What is required is cardiac stimulation and not inhibition. Much depends upon the amount of carbon dioxide in the blood for the stimulation of the respiratory centres. It is possible that the reserves for this purpose may be wasted in useless muscular movements carried out upon an infant with an enfeebled heart.

As soon as the child is born it should be wrapped in a warm blanket and its air passages cleared. The mucus should be sucked out of the trachea by a rubber catheter with a glass window enabling the mucus to be observed before it reaches the operator's mouth. The infant should be then left at rest in a warm cot. Gentle massage of the heart can be carried out under the blanket, and stimulants such as pituitrin (2 minims) and camphor given hypodermically. No movements should be permitted which involve the head or spine. It is difficult at first to abstain from artificial respiration; but experience has proved the efficiency of the alternative method, and shown that results are better than when more vigorous means are employed. Time, warmth, and rest will usually restore the heart's action if the shock has not been so severe as to be incompatible with life. In cases of blocked air passages artificial respiration may be advocated, but the use of the mucus catheter will generally be successful. Heart failure is not usually the cause of death in such instances.

After the administration of scopolamine, or morphine, or even of ether, during labour, the infant is often born in an anaesthetized condition. It must therefore be allowed time to recover.

I am grateful to my obstetric residents, Miss Langston and Miss Salmond, and to the students and sisters for assisting me in these investigations. A record of several hundred cases has been charted and classified by Miss Pritchard, whose services were available through the assistance of the Medical Research Council.

EPIDEMIC ENCEPHALITIS SIMULATING ACUTE SURGICAL LESIONS OF THE ABDOMEN.

BY

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I AM taking the opportunity of reporting shortly on four cases observed by me during August, 1924, to put on record what appears to be a new development relating to the diagnosis of that extraordinary disease now so well known as "lethargic" encephalitis.

At present we are experiencing an epidemic of this disease in Glasgow, and it will be clear from my report how essential it is for those of us who are engaged in hospital practice to draw the attention of our colleagues engaged in general practice to the various forms which encephalitis may take. I may add that the diagnosis of the disease under the conditions of general practice met with in this city is of necessity a matter of the greatest difficulty, especially as many of the doctors will have had little opportunity of seeing cases formerly. It would seem that the qualifying adjective "lethargic" would hardly apply to the type of the disease I have seen lately, and the term certainly conveys a very wrong impression of the striking symptoms, at any rate in the earlier stages of the disease. It is pretty certain that many of the milder cases are treated for other conditions, and the danger of the disease becoming more widespread is very real.

All four cases described were admitted to hospital during the short period of one month (August 13th to August 28th as a matter of fact) as *acute abdominal* conditions, and subsequently three out of the four were diagnosed definitely as epidemic encephalitis and removed to isolation hospitals. The fourth case is as yet not finally diagnosed, but the diagnosis appears to rest between encephalitis and tuberculous meningitis. This case shows that even when the resources of a large general hospital are available diagnosis may be difficult. The notes on the cases are of necessity short as the cases were observed for a brief time only.

CASE I.

Serving soldier, aged 19. Admitted August 15th, 1924. The diagnosis on admission was *perforated gastric ulcer*, which had been changed from that of *strangulated hernia*. The patient gave a history of sudden onset of very severe pain in the left lower quadrant of the abdomen, and stated that he had received a blow in this region on August 13th. He had vomited freely prior to admission.

I did not see the patient until some hours after the diagnosis of perforated gastric ulcer had been made, and it was then quite clear that we were dealing with some acute nervous condition. My first impression was that the case was one of tetanus or strychnine poisoning, as on entering the door of the side-room in which he lay I found him in the position of opisthotonos and having marked spasm of almost all the muscles of the trunk and limbs. His mental condition was, however, lethargic, and in complete contrast to the spastic state of his body. Hyperaesthesia of the skin of the right side of the abdomen from nipple to groin was very marked, and on testing for this strong myoclonic movements were produced. The temperature was 97° F. and the pulse rate 60. He was unable to give a history of any eye symptoms. Having excluded the possibility of tetanus and strychnine poisoning so far as possible I made the provisional diagnosis of epidemic encephalitis, which was confirmed by a physician (Dr. Harrington) next morning. I was assisted in the diagnosis of this case by the fact that I had seen an almost similar case in the same room about a year previously. In this case, however, the pain started in the left arm, but was accompanied by similar generalized myoclonic movements.

The patient was removed in a few days, having run a completely apyrexial course with rather a slow pulse. Ophthalmic examination before removal showed oedema of both optic discs.

It is obvious in this case that the doctor who saw the case prior to admission had seen him before the onset of the typical myoclonic movements, which appear to follow and not precede the agonizing pain.

CASE II.

Miner, aged 41. Admitted August 20th, 1924. The diagnosis on admission was *right-sided renal colic*. The patient gave a history of having been seized with acute pain in the right lumbar region, which later shot down into the right testicle, simulating the pain of the passage of a stone. He had, however, no haematuria and no difficulty in passing urine.

He did not complain of headache, but two days after admission he began to have some disturbance of accommodation, not being able to say whether an object was near or at a distance. At this time he also commenced to have typical myoclonic movements of the right iliac region, most marked in the rectus muscle. He had very marked hyperaesthesia of the skin of the right side of the abdomen; deep pressure was, however, not very painful—apparently a fact of some importance in diagnosis. His knee-jerks were markedly exaggerated, and in a short time the myoclonic movements began to affect the left side of the abdomen as well as the right. The pain was of such severity that large doses of morphine were given. In the first twenty-four hours after admission he had no fewer than five injections of 1/4 grain without any apparent effect.

The absence of reaction to morphine in the cases which I have seen is very striking, and would seem to have some diagnostic importance. There happened to be a case of tetanus in the ward at the time, and I suggested that as the cases seemed very similar intramuscular injections of magnesium sulphate might be tried. This procedure seemed to make the patient so much worse that only two injections were given. The maximum temperature in this case during seven days was only 99°, and the pulse varied between 70 and 80, although it was obvious that the man was acutely ill and suffering agonizing pain.

CASE III.

Miner, aged 40. Admitted August 27th, 1924. The diagnosis on admission was "*acute abdomen*"—(?) *strangulated hernia*. The patient gave a history very similar to Case II. Four days prior to admission he had some slight pain over the left inguinal region, which rapidly became worse and shot down into the left testicle. The patient described the pain as being "jerky" in character. He had vomited repeatedly, had fairly severe headache, and on admission had retention of urine. No hernia could be made out.

On admission there were strong myoclonic movements of both sides of the abdomen and marked skin hyperaesthesia. The knee-jerks were exaggerated and myoclonic movements of the legs were commencing. He complained of no eye symptoms, but lateral nystagnus was present, the significance of which was doubtful owing to his occupation. He had also severe pain in the left hand and the right foot. Again, the temperature and pulse were not above normal, and morphine had no effect on the pain; hyoscine, however, seemed to quieten the spasms.

CASE IV.

Clerkess, aged 17. Admitted August 15th, 1924. The diagnosis on admission was *acute appendicitis*. The patient stated that on August 12th she was seized with acute pain on the right side of the abdomen. She had vomited repeatedly, was constipated, and had severe headache. Her temperature on admission was 102.8°, pulse 100, and respirations 22. During the period of observation the temperature remained moderately elevated.

When I saw her shortly after admission she was very restless and resembled a case of chorea. She was inclined to be hysterical, and her answers were unreliable. The skin of the right side of the abdomen was very hyperaesthetic, and deep pressure was not allowed. She had no local myoclonic movements, although generalized choreic movements were present. Her mental attitude was so peculiar that I decided not to operate and observed the patient for some days. In the interval I saw her own medical attendant, who told me that he had been in doubt regarding some of her symptoms, but had eventually diagnosed appendicitis. On August 17th, as she was still running a high temperature and fairly rapid pulse, I asked a physician to see her. He gave the opinion that he considered that we were justified in exploring the abdomen. I therefore opened the abdomen over the appendix region on August 18th. I found a perfectly normal appendix, but there were numerous enlarged mesenteric glands. I removed a gland for examination, and this was returned as being "chronic inflammatory."

Her condition did not improve after the operation and it was reported to me that she was becoming increasingly noisy at night, throwing off the bedclothes, taking off her nightdress, and behaving generally like a naughty child. During the day she lay perfectly quiet and resented any examination in such a manner that one got the impression of imbecility. The temperature remained high (103° in the evenings). The knee-jerks were absent at this period and she appeared to have a positive Kernig's sign. There was no neck rigidity and no very definite evidence of tuberculous meningitis, which had been suspected when the enlarged glands were found.

She was again examined by the physician, who now gave an opinion that the case might be one of encephalitis, although he would not say this definitely, the symptoms being so obscure.

If this diagnosis is correct we have a case beginning with abdominal pain and not developing the typical myoclonic movements, tending rather to pass straight into the more lethargic type of the disease.

Dr. Middleton has informed me (about September 10th) that the abdominal wound suppurated to some extent and that the condition of the patient has improved as regards pulse and temperature. She still remains in a curious mental condition, but has not developed anything else to make him give a definite diagnosis of encephalitis.

I merely quote the case as illustrative of one in which encephalitis had to be considered, although the definite enlargement of the abdominal glands might indicate another infection.

Conclusions.

From the very limited experience of a surgeon in such cases I would say that the following points are of importance in diagnosis.

1. *Myoclonic movements*, if present to any extent, are characteristic of the type of the disease likely to be mistaken for the acute abdomen, and once those have been seen in a typical case the observer is not likely to mistake them for anything else, although in the cases reported those had evidently been mistaken for the movements of a patient in pain. The movements show themselves as fairly rhythmic contractions of groups of muscles, and not at all as the muscular rigidity characteristic of acute abdominal lesions. In the cases under discussion the recti and obliques were the muscles principally involved. Needless to say, a patient with an acute intra-abdominal lesion does not willingly move the muscles of the abdominal wall to any great extent, and it is very remarkable to observe the intense pain produced by the involuntary myoclonic movements in a patient suffering from encephalitis. Unfortunately the movements appear to follow the pain, the interval varying in length, and herein lies the difficulty in diagnosis.

2. *Eye symptoms* (double vision, disturbances of accommodation, nystagmus, irregular pupillary reflex) if present are of great value. Headache as a first symptom is also of some value, and pain in a site removed from the main site complained of would also appear to be significant, as in Case III, where there was pain in a hand and a foot in addition to the abdominal pain.

3. *Skin hyperaesthesia* in the cases I have observed has been very marked and has been much more widespread than is the case in the ordinary acute abdomen.

4. *Pulse and temperature* in three out of the four cases were hardly affected.

5. *Lethargy*, in the early stages of the myoclonic type of the disease at least, seems often to be notable by its absence.

The disease in the myoclonic form resembles tetanus in many respects, but the muscle spasms are in the nature of a clonus and there is not the tonic spasm found in tetanus. External stimuli, such as an examination of the patient or the banging of a door, tend to produce an exacerbation of the symptoms, and the spasms start in one group of muscles and afterwards spread over the body, retaining, however, their clonic character. Chorea and hysteria are also likely to pass through the mind of the medical officer examining such a case. I have already discussed the question of the acute abdomen.

My only object in trespassing on the physician's domain is to draw attention to the fact that these cases are being mistaken for surgical conditions, and I must apologize to my readers for the somewhat inadequate notes. I also write in the hope that others will give us guidance in the question of early diagnosis.

I am indebted to Mr. Paterson for his permission to describe the cases seen in his wards and to Drs. Harrington and Middleton for their help in consultation.

SPONTANEOUS RUPTURE OF THORACIC AORTA.

BY

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SPONTANEOUS rupture of the thoracic aorta as a sequel to an operation for gangrene of the leg is a sufficiently rare event to justify the following report.

A small, thin, rather cachectic-looking man, aged 49, had spent most of his life in mining work in Burma, where he had suffered from beri-beri and malaria. His work, he stated, was largely in wet boggy country, so that for years he was almost continually getting his feet bathed in water and mud. I was first called to see him about six months before his death for an attack of abdominal pain which was diagnosed by Dr. Paget-Jones of Horsley, Surrey, as due to appendicitis; I agreed with this diagnosis and operated the following day, removing a subacutely inflamed appendix. During the routine pre-operative examination