

earlier period of the disease. Antitoxin has not the slightest effect on these cases. 6000 units were generally given.

CASE 1.—The patient was a boy, aged five years, who was admitted on May 28th, 1906, on the sixth day of illness. The characteristic symptoms developed on the 30th—i.e., on the eighth day of illness—and he died on the 31st. On admission he had the grey, anxious look of these malignant cases but the symptoms of vomiting and reduplicated heart sound did not show themselves until the day before he died. In him the apex beat was displaced downwards and outwards but this condition is not ordinarily present.

CASE 2.—The patient, a boy, nine years old, was admitted on August 4th, 1906, on the fourth day of illness. His mother looked after her children very well and so soon as symptoms of sore-throat developed she took him to her medical man who injected antitoxin and sent the boy into the hospital, where 8000 units of antitoxin were given on admission. At this time there was thick dark membrane, easily detachable and foul smelling, on both tonsils and uvula, and the cervical glands were much enlarged. On August 5th a large amount of albumin was present in the urine. On the 7th there was green vomiting, the pulse was slow and feeble, and the rhythm of the heart sounds was altered. The amount of urine passed was as follows: on the 6th, 20 ounces; on the 7th, 13 ounces; on the 8th, six ounces; on the 9th, four ounces; and on the 10th, two ounces. The patient died on the 10th. This case shows the uselessness of antitoxin even when injected early. In this patient the dangerous symptoms developed on the seventh day of illness.

CASE 3.—The patient, a boy, aged seven years, was admitted on the seventh day of illness with a nasal and pharyngeal diphtheria; the urine contained one-eighth of albumin. The dangerous symptoms developed on the fourteenth day of illness and he died on the seventeenth day. A well-marked symptom in this case was sighing, which was followed by a slight groan on expiration.

CASE 4.—The patient, who was six years of age, was admitted on the fourth day of illness and he died on the seventh day. The characteristic symptoms were present shortly after admission.

CASE 5.—The patient was aged six years and was admitted on the eighth day of illness. The characteristic symptoms appeared exceptionally late—namely, on the nineteenth day of illness. The patient died on the twentieth day.

CASE 6.—The patient was three years old and was admitted on the fourth day of illness with nasal and pharyngeal diphtheria. The dangerous symptoms developed on the seventh day of illness and death occurred on the thirteenth day.

CASE 7.—The patient was a girl, aged two years and five months. She was admitted on the fourth day of illness, when 8000 units of antitoxin were given. The dangerous symptoms developed on the eighth day of illness and she died on the tenth day.

CASE 8.—The patient was aged five years and was admitted on August 17th last, on the fourth day of illness. Vomiting commenced on August 20th (i.e., on the seventh day of illness) and on the 21st (i.e., on the eighth day of illness) the heart sounds were heard to be reduplicated and abdominal pain was complained of. The patient died on the 24th.

These grave symptoms can appear early in the disease. In one case they appeared on the fourth day of the disease.

Examination of the swabs from these throats shows large numbers of streptococci and staphylococci associated with the Klebs-Löffler bacilli, and some observers (Roux and Martin) have been led to regard such an association as unfavourable, and, in fact, the cause of the fatal termination. Against it is the circumstance that these symptoms never develop in other septic diseases, such as scarlet fever, for example. The striking feature is the uselessness of antitoxin in these cases. It is possible that there are several kinds of diphtheria bacilli which elaborate different toxins and such toxins will be only neutralised by special antitoxins. If such be the case it would be worth while to have antitoxins prepared from the bacilli derived from these cases and used for such cases. Streptococci which were at one time thought to be alike have now been found to represent a number of distinct organisms and the same may be found in the case of diphtheria bacilli.

I am indebted to Dr. Henry E. Armstrong, the medical superintendent of the hospital, for permission to report on these cases.

Newcastle-upon-Tyne.

HOSPITALS AND TAXATION.—Mr. P. J. Langdon, the secretary of the South Devon and East Cornwall Hospital, was summoned before the Mayor of Plymouth on Sept. 23rd for keeping a male servant without a license. The male servant was the hospital porter and the hospital committee accepted the responsibility of the case. After some discussion it was agreed that the duty should be paid, and the summons was dismissed. The supervisor of taxes applying for costs against the hospital, the mayor said that the bench regarded it as somewhat of a hardship that the hospital should be called upon to pay but at the same time he had no option and he would pay the costs himself; however, the supervisor of taxes remarked that he himself was in sympathy with the institution and agreed to the remission of the costs.

THE TREATMENT OF MAMMARY CARCINOMA BY THE LOCAL INJECTION OF PANCREATIC FERMENT.

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DURING the last year or so much has been written and much more spoken concerning the use of trypsin in various forms for the treatment of malignant disease, some advocating its use and publishing results¹ which made it hopeful that at last we had an agent which, if unable to cure the disease, had at least a favourable influence on the course of it, relieving the pain to a great extent, preventing the progressive loss of weight, and in some instances actually modifying the morbid process itself. The results obtained at the Clinical Research Laboratories of the Middlesex Hospital² and the conclusions drawn therefrom (results and conclusions with which the following cases entirely agree) seem to make it doubtful whether any benefit whatever can result from such treatment.

The following cases are interesting in many ways, more particularly because it was decided to treat a certain number of typical cases of malignant disease of the breast in various stages by these methods, together with the application of x rays and comparing the results with those obtained by the use of x rays only. Four cases of carcinoma of the breast were chosen, three of which had been operated upon and one fungating atrophic scirrhus, considered to be quite inoperable. Of the three cases operated on there was slight local recurrence manifest in two, and in the other no recurrence except a small and very questionable lump in the axilla. The applications of x rays were given through tungstate two or three times a week at intervals of two or three days, according to whether any dermatitis was present or not. The duration on each occasion was 30 minutes. For the first few injections Allen and Hanbury's sterile trypsin was used, followed afterwards by the same firm's trypsin co. (trypsin and amylopsin). Doses of 15 minims were commenced with, gradually working up to 30 minims. Fresh bottles were used on each occasion and strict aseptic precautions were observed in each case. The prick of the needle was always dressed afterwards with cyanide gauze soaked in collodion. The injections were usually made into the skin and subcutaneous tissue near the site of the growth, but occasionally into the arm. Excepting for slight relief of pain for about a week in the atrophic case and some improvement in the general condition of Case 3, especially as regarded the appetite during the period of the first six injections, no good whatever resulted either as regarded the disease itself or the general condition of the patient. In Case 2 very rapid dissemination and cachexia have occurred and already within a few months of operative treatment the patient is continuously confined to her bed. Comparing this with exactly similar cases, in which x rays were used alone, we cannot help thinking that the injections were the cause of the rapid dissemination. After a few injections the pain was in every case increased, and afterwards, when larger injections were used, inflammation and occasionally suppuration occurred, exactly the results obtained at the Middlesex Hospital.

Dr. Benjamin Moore in 1905³ pointed out, and it is now generally recognised, that there is a diminution of the gastric hydrochloric acid in almost all the cases of carcinoma not only of the stomach itself but of practically all other organs, and Dr. S. Monckton Copeman⁴ suggests that the cachexia, loss of appetite, and general ill-health of patients suffering from the disease are consequent on the chyme which enters the duodenum from the stomach after a meal being insufficiently acid to stimulate an adequate amount of pancreatic secretion

¹ Nature and Treatment of Cancer, by Dr. J. A. Shaw-Mackenzie. London: Baillière, Tindall, and Cox. 1906.

² Archives of the Middlesex Hospital, vol. ix., Dr. Walter Ball and Mr. E. J. Fairfield Thomas.

³ On the Absence or Marked Diminution of Free Hydrochloric Acid in the Gastric Contents in Malignant Disease of Organs other than the Stomach, Royal Society, March, 1905.

⁴ Recent Research Work in Cancer, Practitioner, August, 1907.

necessary for proper digestion, and that any good in the shape of improved appetite, &c., which may result from the use of trypsin does so by supplying this deficiency. Case 2 seems to uphold this but in none did we find any prolonged good influence either on the pain or any other symptoms of the disease, and without doubt compared with these the cases treated by x rays alone are in a much better condition at the present time.

CASE 1.—The patient, a female, aged 69 years, was admitted to the x ray department of the London Hospital on June 12th, 1907. Her previous health had been good and there was no history of tubercle or of cancer. Commenced eight years previously with retraction of the left nipple. The breast and nipple had gradually been drawn upwards to the left axilla. The only treatment which she previously had had was boric lint and powders. The chief symptoms complained of were pain along the arm, which was worse at night, swelling of the arm at times, and the foetid smell from the breast, all of which had been getting worse during the previous three months.

On admission there was a large cancerous mass consisting of breast and glands all drawn up towards the axilla, with a deep fissure along its surface, at the bottom of which was a fungating mass. The whole condition was atrophic and smelt horribly. The patient was considered to be quite inoperable and was treated by x rays and hypodermic injections of trypsin co. She had had 22 applications of x rays three times a week on alternate days and 23 injections of trypsin on the same days, commencing with doses of 15 minims for five doses and gradually working up to 30 minims, which she had on the last nine occasions. During the period after the first few injections she had some relief from pain, but after every subsequent injection the pain increased, the swelling of the arm became greater and the sleeplessness worse than ever, so much so that she continually required morphine. The wound was daily irrigated with hydrogen peroxide (ten volumes) which improved the smell and fungoid state, but otherwise the condition was much worse, other enlarged glands having appeared in several places. The swelling of the arm was less than it had been a few weeks previously owing to careful bandaging from the elbow upwards to prevent or lessen the oedema. The condition is spreading and the appetite extremely bad, as it has been all during the injection treatment. In this case no actual suppuration occurred, but there were lymphangitis of the arm and local acute inflammation on several occasions.

CASE 2.—The patient, a female, aged , was admitted on June 12th, 1907. The family history was good and her previous health had been good. The left breast was removed on April 8th, 1907. The usual scar was present; there was a recurrence in the axillary glands with some slight swelling and oedema of the arm. The patient complained of great pain when lying on the left side. She was given 20 applications of x rays and 15 injections of trypsin co. She experienced a great increase of pain after every injection. There was induration each time, with frequently a slight rise of temperature and the appearance of an impending abscess which generally resolved. The appetite was bad all through and did not improve in the least. During treatment the patient has become extremely ill, wasting rapidly, with a local and general dissemination, fresh nodules being evident in the scar, in the other breast, in the axilla, and on the surface of the abdomen, the back, and the legs. The only relief obtained was when under the influence of opium.

CASE 3.—The patient, a female, aged 71 years, was admitted on June 7th, 1907. She had been operated on for carcinoma of the right breast in November, 1906, and first noticed lumps in the skin in April, 1907. Five weeks before admittance the arm had begun to swell. On admission the arm was very much swollen and there were hard nodules in the skin around the scar and enlarged glands in the axilla and above the clavicle. She was given 20 sittings of x rays and 17 injections of trypsin co. For about the first three weeks she felt much better in herself and there was a great improvement in her appetite. She said that there was some pain after each injection but it was different from the pain which she had been suffering and she described it as if one pain killed another. This good effect soon passed off and the pain became worse than ever before, causing her to get practically no sleep at nights. There was generally a throbbing and burning pain after each injection, though no actual suppuration occurred. The condition is rapidly getting worse; the nodules were spreading in the skin around and the lumps in the axilla and above the clavicle are much

larger and are increasing in size. The only rest which she is now able to obtain is by the aid of morphine.

CASE 4.—The patient, a female, aged 56 years, was admitted on May 23rd, 1907. The left breast had been removed. The usual scar was present but there was only one questionable lump to be felt in the axilla and this was difficult to distinguish from a thickened axillary fold in the scar of operation. She was given 15 sittings of x rays and 13 injections of trypsin co. in doses gradually worked up to 30 minims. The pain was increased on every occasion, sleep was prevented, the appetite did not improve a bit, and there was no good result. During treatment several fresh definite lumps appeared in the axilla. Since discontinuing the trypsin the pain in the breast and the arms has been less.

A CLINICAL STUDY OF PARALYSIS OF SUDDEN ONSET AND WIDE DISTRIBUTION:

FIVE CASES OF LANDRY'S PARALYSIS; ONE CASE OF ACUTE INFECTIOUS MULTIPLE NEURITIS; AND ONE CASE OF MYASTHENIA GRAVIS.¹

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I HAVE chosen this subject for presentation at this Congress because the symptoms and course of the disease present in these cases were to a great extent the same, but the interpretation of the symptoms from a pathological and etiological standpoint differed widely. In this series of cases I report two cases of Landry's paralysis with recovery, three cases of Landry's paralysis with death, one case of multiple neuritis, and one case of myasthenia gravis.

CASE 1.—I was called in November, 1905, by the family physician to see a patient, a man, aged 30 years, with a previous history of having had an operation some years before for the removal of the coccyx. He had been in good health ever since but had always observed that there was some slight discharge from the region of the wound. When I saw him he was in bed with total flaccid paralysis of all the muscles of the lower extremities, the muscles of the trunk, and the muscles of the upper extremities. His respiration was laboured, the accessory muscles of respiration in the neck being strongly contracted with each effort of inspiration. The effort of swallowing was accompanied by marked choking and the attempt was given up. His temperature was normal, his pulse was 84, his reflexes were absent, his sensation was perfect, faradic contractility was present, and the diagnosis was made of Landry's acute ascending paralysis. As all treatment which has heretofore been tried in this disease has, as a rule, resulted in failure, I determined to give Credé's ointment of silver a fair trial. It was accordingly prescribed and it was rubbed into the spinal region night and morning until two ounces had been used. The only internal medication used was the fluid extract of ergot, one half-teaspoonful every three hours. The morning following my first visit the respiration was better, swallowing was more easy, and it was evident that the ascent of the disease had reached its limit. The further progress of the disease is best described by a gradual return of motion, first appearing in the distal muscles of the lower extremities and then involving the larger muscles. In two weeks motion had returned to all the muscles of the lower extremities and had begun to return to the muscles of the hand and forearm. In the third week contraction of the biceps was noticed. After six months the patient was walking and used his arms and hands with ease. At the time of writing the patient has no evidence of his previous disability with the exception of some atrophy of the muscles of the hand and an inability to stand upon his tip toes.

CASE 2.—I was called on Nov. 21st, 1905, by the family physician to see a little girl, aged four years, who had been in previously good health until the afternoon when she was suddenly stricken with paralysis of both lower extremities. So suddenly did the paralysis come on that the child, who was playing upon the floor a moment before, had in obedience to a call from her mother made an attempt to rise and found her legs were powerless. She was picked up, undressed,

¹A paper read at the International Congress of Psychiatry and Neurology held at Amsterdam from Sept. 2nd to 7th, 1907.