case of starvation in animals the brain does not diminish in weight, while the other organs are considerably reduced in volume and weight, and that even after very long periods of fasting in the human subject no unusual nervous symptoms may appear. Traube's view, therefore, appears less tenable, the more so as in some cases of acute atrophy the delirium and stupor came on early in the course of the disease, when a sufficient time had not elapsed for the brain to fall into the condition of inanition. In the great majority of the cases, moreover, the body appears well nourished.

If the nervous system constitutes the master tissue of the body, as starvation experiments show, it must have the power of rejecting as well as selecting the various compounds in its vascular fluids. One sees no reason why this power of rejection should not be as readily exercised against toxic elements as against an abundance of a single constituent in diet. The constant exposure to, and attack by, toxic compounds must, however, weaken this capacity until it does not excel that of any other organ of the body, and, when this point is reached, the action of the poison immediately becomes manifest in the cerebral symptoms. Thus we may explain the more or less sudden onset of uræmic coma and convulsions, the delirium, the convulsions, and the stupor of acute atrophy. This, of course, does not mean that the poison in both cases is the same. In acute atrophy the products of the disintegration of the liver cells may constitute the injurious element, and, if so, they are not likely to be similar to the products of a somewhat disordered metabolism retained in the system in other diseases.

The hæmorrhages are probably due to vascular changes, such as those described as occurring in the liver in our case. The observations of other authors on this point are very defective, and no generalisation can, therefore, be made, but we must accept this explanation, or turn to some such a one as that offered by Denys for the occurrence of purpura hæmorrhagica—the inordinate disintegration of blood plaques, and the consequent arteriole and capillary thrombosis.

PERNICIOUS ANÆMIA—SUCCESSFUL TREATMENT BY ARSENIC.

By J. S. RISIEN RUSSELL, M.D., M.R.C.P.,
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SINCE Dr. Byrom Bramwell¹ published his three cases of recovery from this disease a number of cases have been recorded in which the administration of arsenic, as recommended by him, has been followed by successful results. In this country alone the number of cases thus treated successfully has been considerable.² I think that this case should be added to the list:

J. T., aged 58, a man of average height, fairly nourished but intensely pale, first came under my care as an out-patient at the Metropolitan Hospital on January 14th, 1892, complaining of shortness of breath, swelling of his legs and face, an intense burning sensation in the rectum, and great weakness.

History.—He was unable to say how long he had been getting pale, but had noticed his face becoming puffy for three months before he came to the hospital; it was always worse in the morning and subsided by the evening. The swelling of his legs was only of five days' duration, but during that time they had become rapidly worse. Shortness of breath was of some weeks' duration and had been steadily increasing so that at the time when he came under observation it was a very distressing feature of his illness. For some time his mouth and tongue had felt dry and rough, and his food did not taste natural; he suffered from nausea, but there had been no actual vomiting. Three weeks before I saw him he had had an attack of diarrhoea and ever since then he had been subject to an intense sensation of burning in the rectum, which was a source of great discomfort to him. This sensation was not constant, it only came on from time to time and was not in any way related to the act of defæcation. He also suffered from a scalding sensation along the urethra when he passed water, but there was no urethral discharge nor had there been any. The patient had formerly enjoyed excellent health. He denied having had syphilis and no history of this affection could be elicited except that his wife had had five miscarriages and no children. No history of phthisis or malignant disease in his progenitors could be ascertained.

State on Examination.—The patient was evidently very ill. He was exceedingly pale, but there was in addition a distinct lemon-yellow tinge of the face. Pallor of the lips and mucous surfaces was marked. The conjunctivæ were yellowish in colour, and might easily have been mistaken for jaundice, as, indeed, had evidently been the case; for he had been under treatment for "congestion of the liver" for a month before he came to the hospital. His face was very puffy, and the oedema of his feet and legs was so great that he was no longer able to wear his boots; it was most marked about the ankle joints, but the skin pitted very distinctly

over the tibiæ along the front of the legs. No subcutaneous or other hæmorrhages could be detected, and the most careful examination failed to discover any abnormal pigmentation such as is met with in Addison's disease. There were no glandular enlargements.

Blood.—I very much regret that I had not the means of estimating the percentage of hæmoglobin before the treatment was commenced. The corpuscles ran badly into rouleaux; the red cells were greatly diminished in numbers, while the white cells were relatively increased. The red cells were variously altered in shape, many of them tailed, and others in process of disintegration. Large nucleated red cells were present.

Heart.—The cardiac action was regular, though rapid; no thrill could be felt over the præcordia, and the apex beat was not displaced. The cardiac dulness was not increased; no murmur was audible at the apex, but a systolic murmur accompanied the first sound over the pulmonary area. The pulse was rapid, but regular.

Lungs.—No abnormal physical signs could be detected in either lung. Breathing was rapid, and the slightest exertion increased the dyspnoea.

Abdominal Viscera.—The abdominal organs presented no abnormal features. The liver and spleen were not enlarged, and no abnormal mass, glandular or otherwise, could be detected in the abdomen.

Rectum.—The bowels acted regularly, but the patient was troubled greatly by a burning sensation in the rectum. Nothing could be found on digital exploration to account for it.

Urinary Organs.—There was intense scalding on passing water, but no evidence of urethral discharge. Micturition was not frequent, and the urine was not excessive in amount; nor did it contain albumin or sugar.

TREATMENT AND PROGRESS.

Such was the clinical history of the case, which appeared to me to justify but one diagnosis, namely, that of pernicious anæmia; but it was of course necessary to exclude the possibility of intestinal worms being responsible for the anæmia, though it was highly improbable that those forms most likely to cause intestinal hæmorrhage would be found in a man who had never been out of this country. Anthelmintic treatment was combined with the treatment of the anæmia, which consisted in the administration of arsenic and iron; but no intestinal worms or their products were evacuated. Four minims of liquor arsenicalis and 15 grains of the ammonio-citrate of iron were administered three times a day, and while the dose of the iron was only once increased throughout the time that the patient was under treatment, the arsenic was increased gradually until the patient was taking 12 minims three times a day, five weeks after the treatment was commenced. This amount of arsenic continued to be well borne until March 11th, 1893, when irritation of the eyes became so troublesome that it was discontinued, and the amount of iron increased to twenty grains three times a day. There were no other symptoms of arsenical poisoning, and this one improved rapidly under local treatment with boracic lotion, after the arsenic was discontinued. During the time that the patient had been taking arsenic there was steady and rapid abatement of his symptoms; but, when it was discontinued, he began to relapse slightly, so that, on March 25th, I ordered 4 minims of liquor arsenicalis in combination with the original dose of iron. The arsenic was subsequently increased to 6 minims, but it never became necessary to exceed this amount, and the treatment was discontinued altogether at the end of May. A fortnight after the treatment was commenced there was distinct improvement, and by the end of a month he felt strong and better in every way; he could walk farther without becoming short of breath, and the oedema had subsided considerably. In fact, a week later, he could wear his usual boots with comfort. By the beginning of March he had lost much of his pallor, his appetite was greatly improved, the abnormal sensations of his tongue and mouth no longer troubled him, his food tasted natural; the burning and tenesmus of the rectum had ceased a fortnight before; there was only very slight oedema of the ankles. A week after the arsenic was first discontinued the patient complained of a creeping sensation in his skin all over, the face and scalp included. He had been subject to this a year or two before, and it had troubled him off and on since; it always commenced when he got warm in bed. By the end of April the patient was practically well, but treatment was continued a month longer. By the end of this time he looked and felt extremely well; not one of the symptoms from which he formerly suffered persisted, and his cheeks were quite rosy.

SUBSEQUENT HISTORY.

He continued in excellent health until September, when he consulted me again owing to irritation and creeping sensations in his skin, which had returned, as had the scalding along the urethra during the act of micturition. I ordered

him 5 minims of liquor arsenicalis, with 10 grains of the ammonio-citrate of iron, three times a day, and in three weeks increased the arsenic to 12 minims three times a day. The burning in the rectum from which he formerly suffered returned soon after the treatment was commenced, but all the symptoms disappeared in a few weeks, and he has since been perfectly well. He has taken no arsenic or iron since the middle of October. I have just seen him, a year after he first came under my care, and he looks and feels perfectly well; none of the old symptoms having returned.

REMARKS.—When the term “pernicious anæmia” is used, most of us associate it with a definite clinical picture; and I venture to think that few who read the report of this case will have any doubt that it belongs to this category. If it be granted that we are dealing with a case of pernicious anæmia, then we may with all fairness claim it as an additional example of the efficacy of arsenic in the treatment of this disease. In support of my belief that the arsenic and not the iron was responsible for the patient's recovery is the fact that when the arsenic was discontinued, owing to the irritation of his eyes, his symptoms relapsed in spite of the increased dose of iron which was substituted for the arsenic.

Although there are cases which do not respond to arsenic, and others which improve on iron after arsenic has been unsuccessful, yet that arsenic is of signal advantage in the treatment of pernicious anæmia must be patent to all who care to compare the results of the treatment of this affection before and since Dr. Byrom Bramwell called attention to the value of this drug in its treatment. From the few cases of this disease which I have seen in which arsenic has been tried and has not averted the fatal termination, I feel convinced that this result was due partly to the late stage in the disease at which the treatment was commenced, and partly because the amount of arsenic given was not increased rapidly enough. Of course there are cases in which the irritability of the stomach is so great that large, or even moderate, doses of arsenic cannot be borne; in such it is well to give minute doses of the drug repeated frequently as has been recommended, since it may be tolerated in this way when the other method has failed.

In those cases in which the disease is so far advanced as to make it probable that there is not time for arsenic to act, where the drug is not tolerated owing to irritability of the stomach, or toxic symptoms coming on early, or where it has been well borne but has failed to arrest the progress of the disease, the results of transfusion³ are sufficiently encouraging to make it our duty to advert to this form of treatment as a last resource, but before it is too late to allow of reasonable hope of good resulting from its performance. The results recently obtained by Brakenridge⁴ and Affleck⁵ are particularly encouraging in this connection; and Duncan,⁶ who performed the operation in these cases, is of opinion that the corpuscles as well as the serum of the blood should be injected.

In all supposed instances of recovery from pernicious anæmia it is important to follow the subsequent history of the case, as cases have been too hastily recorded as cured, which have afterwards relapsed and died,⁷ while others which improved at first under some particular form of treatment afterwards followed a similar unfavourable course⁸ as those which were supposed to be cured in the first instance.

REFERENCES.

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BEQUESTS TO DUBLIN HOSPITALS.—Mr. Gervas Taylor, who died at Dublin last week, has, we understand, left £5,000 to the Meath Hospital, £5,000 to the Adelaide, £5,000 to Sir Patrick Dun's, £1,000 to St. Vincent's, £1,000 to the Mater Misericordie, and smaller sums to other charities. We are informed, also, that to his former medical attendant, Dr. Lambert Ormsby, of the Meath Hospital, he has bequeathed £3,000.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

A SUCCESSFUL CASE OF PORRO'S OPERATION FOR CANCER OF THE RECTUM.

I FIRST saw Mrs. D., aged 30, of Birmingham, on October 27th, 1893, in my out-patient room at the Women's Hospital. She had been married ten years, and had had six children, the youngest being two years old. Menstruation had been perfectly regular, and free from pain. She had had no miscarriages. She complained of having had a discharge from the rectum for the last seven months. In August, 1893, she had great difficulty in opening her bowels, being constipated for some days, but since then she had had no trouble whatever with them. She thought she had been getting thinner for the last few weeks. On examination I found a cancer of the rectum, the size of an orange, two to three inches above the anus; soft and broken down on the surface, and projecting irregularly into a large cavity, which did duty for the rectum; its upper limit I could not feel. She was between six and seven months pregnant. Thinking that abortion, if brought on, would result in a smashing of the cancer, I advised her to wait till full term.

On December 14th, at 5 A.M., she was seized with labour pains, which were strong and painful all the morning. I saw her at 11.30 A.M., and found her in great pain. From the vagina I could not reach the cervix; the vagina was narrowed enormously by the pressure of the carcinoma, and the uterus was evidently pushed completely up into the abdomen for the same reason. I had her removed at once to a private hospital near, and early the same evening, with the assistance of Dr. Martin Young, I performed Porro's operation upon her. An incision, 5 inches in length, was made rapidly in the abdominal wall, and the uterus being well pushed from each side into the wound, I quickly divided it in the mid-vertical line for 4 inches, and although the amniotic fluid was profuse in quantity, Dr. Young so firmly pressed the abdominal walls against the uterus that none of it entered the peritoneal cavity.

After removing the child (which was badly nourished, about the eighth month, and only lived a few minutes) I pulled the uterus outside the abdomen and applied Lawson Tait's clamp with wire, and tightened it; before doing so I enclosed in the wire of the clamp the parietal peritoneum, according to the new method which Mr. John W. Taylor devised, and which curiously enough he was first making known to a meeting of the Gynæcological Society on that very night. The blood which poured from the uterus as it was being amputated was prevented from entering the peritoneal cavity just as we prevented the entry of the amniotic fluid. The peritoneal cavity was dry from end to end, not a spot of blood or amniotic fluid entering it. I sewed up the wound above the stump, and thus completely shut off the peritoneal cavity. No antiseptics of any kind were used, and if it had been necessary to flush the peritoneum I should have done it, as I have in other cases, with plain water.

Although she was entering upon the cachectic stage of malignant disease, she has made an uninterrupted recovery; the highest temperature recorded since the operation being exactly 99° F.; the abdominal wall was soft to wobbling all the time. Since it is a rapidly growing, easily breaking down cancer, obstruction of the bowels has not supervened, nor do I think it will. That an operation in this case has caused less discomfort and been less harmful to the patient than abortion I am convinced. The sad part of the case is the cause; a cancer in a young woman too far up the rectum and too extensive to hold out the slightest hope of removal.

J. FURNEAUX JORDAN, M.B., F.R.C.S.,

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RUPTURE OF UTERUS DURING LABOUR: HYSTERECTOMY.

ON December 28th, 1893, Mrs. S., aged 42, who had had nine children, and had now reached full term, slipped and fell,