and to make him free from a local or general recurrence. In primary operable malignant tumors it is well, perhaps, to ray the field for about ten days before the operation, and at once after the operation, particularly in carcinoma and sarcoma, to prevent recurrence or infiltration into the glandular tissue. An area three or four inches larger than that of the original tumor is exposed to a hard tube; in fact, the harder and deeper the lesion the harder should be the tube.

HYSTERO-EPILEPSY IN A CHILD.*

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As there are comparatively few recorded cases of hystero-epilepsy in children, it was thought worth while to record this instance.

History.—Beatrice L., aged 15, was first seen in consultation in New York, Aug. 8, 1906. Parents are healthy and have five other children of normal health. The patient is the second child, the oldest being a boy, aged 18. One child died when four months old of some intestinal disorder. There was a miscarriage ten years ago. There is no history on either side of venereal disease, hysteria, epilepsy or insanity. On the maternal side two sisters died of phthisis before reaching adult life; the grandfather of pneumonia at 53 years of age and the grandmother at 42 years of age of unknown causes. On the paternal side, the grandfather died of lead poisoning at 55 years of age, while the grandmother is in good health at 67 years.

The patient's birth was normal, but for the first six months she was sickly, owing to digestive disturbance. Following the eruption of her first tooth at seven months her health steadily improved. There was little or no disturbance during dentition, and she had no eclamptic attack during infancy. She had none of the diseases of childhood, although exposed to measles and pertussis at home, and had never been under medical supervision until 13 years old. It is said that she has always been quick in her actions and impulsive, but not quick tempered or morose. She was not bright at school, yet until the present attack was able to keep up with the classes of girls of her own age, whose companionship she enjoyed. Since the attack attendance at school has been irregular and ceased altogether during the past year.

In June, 1904, while playing see-saw she fell from about the height of 3 feet, striking the lower part of her back across a log. She had pain over seat of injury for a few days. A month after her fall, when just 13 years old, and during the ordeal of her first communion and confirmation, the strain of which endured for some hours, she fainted. She was carried into the priest's house and put to bed. There was complete loss of consciousness; no rigidity or tonic movements, but she turned constantly from side to side. In about 10 minutes she became conscious but was very weak; in an hour, she was able to walk home. These fainting attacks were repeated every two or three weeks for the next six months. There was loss of consciousness with restlessness on regaining consciousness and a peculiar feeling of the hands which was relieved by rubbing them together. There was no aura or premonition of the approach of the attack, which appeared not to be induced by excitement or strain.

In January, 1905, she had a severe attack. She fell suddenly unconscious to the floor, rolled from side to side with kicking movements, and twitching of arms and face, and emitted cries and shrieks of laughter. There was no frothing at the mouth, no biting of the tongue and no relaxation of the sphincters. These severe attacks continued every week

or so until after her first menstrual period, which occurred in April, 1905, and was apparently normal. During this month and also May there were no attacks. The second menstruation was normal.

Menstruation did not occur in June, and since then the periods have been irregular, painful and with an increase in the severity of the convulsive seizures before and during the flow. Attacks were frequent until February, 1906, when they were less severe and she had none during March. In April, however, they were so severe and frequent (two or three a day for two weeks) as to confine her to her bed, she being unable to stand or walk, though the muscular power of her legs seemed normal while on her back. This condition is precisely that termed by the French *astasia-abasia*. She complained of much pain in the lumbar spine and is said to have been delirious about half the time. At times there were intense photophobia and loss of vision; much twitching of the facial muscles, and loss of speech for an hour or so.

Attacks continued at irregular intervals of from three to ten days until the patient was first seen, and had the following general characteristics: They occurred suddenly, without warning except in four or five instances, when they were preceded by a feeling of intense weakness. Nine-tenths of them occurred in the evening between 8 and 9 o'clock. Two occurred later, about 11 o'clock, following an evening's musical entertainment, showing the relation of nervous excitement to the convulsion in these two instances, and so apparently differentiating them from the usual seizures.

The first objective symptom was the falling to the floor on her back, the period of unconsciousness being variable. On revival she moaned, the respiration was stertorous; she complained of pain in the region of the heart and later in the frontal or the occipital regions, at times in the throat, back, abdomen, arms or legs, the convulsions being distinctly clonic in type, rarely have they passed through the tonic stage. At times she was delirious, speaking at random and again shrieking and laughing. Just before regaining consciousness the least noise in the room caused marked opisthotonos. Following the convulsion at times she fell into a deep sleep while again on regaining consciousness she felt very weak, but on taking nourishment soon recovered her ordinary strength.

It is to be noted that there were no foaming at the mouth, no tonic spasm, no relaxation of sphincters. She has never bitten her tongue or injured herself when falling, although in one attack she jumped over the foot of the bed, landing on her back on the floor. The average duration of the convulsions was about one hour, some not longer than fifteen minutes, others lasting three hours and over. There have never been more than three attacks in one day and the interval between has in one instance been two months. As a rule not more than one week intervened.

Examination.—The patient's eyes were examined at the Brooklyn Eye and Ear Hospital, June, 1906, when she was told that there was no ocular trouble. Eyes had been examined twice before with the same result.

Examination showed a well-developed girl with good muscular strength, tall for her age; forehead slightly protruding, eyes deep set, and the face somewhat wedge-shaped; expression rather dull. Conjunctivæ and mucous membranes pale, neck thick, with some enlargement of the lateral lobes of the thyroid gland, especially that of the left side; position slightly stooping; chest inclined to be flat; abdomen prominent.

Lungs on examination were found normal. There was no enlargement or displacement of the heart. In the recumbent posture a loud late systolic murmur was heard in the pulmonary region, downward to the fourth left interspace and outward to the mitral area; but best heard in the pulmonary area; not heard in the upright position. No hum was heard over the vessels of the neck or over the thyroid gland. The abdomen was normal to palpation. There was no pain over bladder region or in the iliac fossæ. Examination of the back showed prominence of the third, fourth and fifth lumbar vertebrae, with marked tenderness on moderate pressure over them; no tenderness elsewhere. No areas of anesthesia were demonstrable.

* Read at the meeting of the Philadelphia Pediatric Society, November 13, 1906.

Hyperesthesia was present both on August 8 and August 22, the slightest touch with finger or pin causing pain over the coccyx and gluteal regions above the gluteal fold, extending upward along the posterior axillary line to the seventh rib, around which it passes to the midclavicular line, from there dropping to the costal margin and crossing to the opposite side. The entire abdomen was hyperesthetic and down the thigh to six inches below the anterior iliac spine passing obliquely to the inner side of the thigh. The knee-jerks were found to be slightly more than normally active. There was no ankle clonus and the Babinski reflex was not present. The external genitals were normal. There was no vaginal discharge.

Later History.—The patient had five slight attacks between August 8 and August 16, and only one convulsion lasting five minutes on August 20, since that time she has had no return of the convulsions. On September 9, the third day of menstruation, she passed a uterine cast without any nervous disturbance or pain. On September 26 the patient showed marked change; her expression was brighter and she looked more intelligent; the headaches had almost disappeared; she complained of no more backache or pain in the extremities; all areas of hyperesthesia had disappeared, and there was no pain on moderate or firm pressure over the lumbar vertebrae. Knee-jerks normal.

Treatment.—This has been entirely hygienic, the only drugs used being veronal and syrup of the iodid of iron combined with syrup of hypophosphites. The veronal was given in five grain doses for three days when it was discontinued owing to the deep sleep with stertorous breathing which occurred within half an hour after taking. General measures employed have been a strict attention to diet, with the elimination of meats, to a great extent, all highly seasoned food, stimulants, tea, coffee, sweets, and fried food. Only three meals daily have been allowed, the evening one composed of cereal, milk, bread and butter and stewed fruit. The patient is put to bed at 8 o'clock every night and takes a rest during the day. She lives an outdoor life as far as possible and has plenty of fresh air in her room at night. In the morning on awakening she is given an alternate hot and cold spinal douche, put back to bed for half an hour and then given a friction rub along the spine with cold cream for twenty minutes.

A report received November 13 states that the patient has just passed her third menstrual period without any return of the convulsive attacks or any nervous manifestation.

It is to be noted that heredity bears no relation to the etiology of this case. This is contrary to emphasized observations of Mills, Sachs, Saint-Philippe and others, who have found it most frequently in the children of degenerate parents. It seems that the spinal injury has been a factor in the cause of the disease, while undoubtedly the nervous strain attendant on the religious ceremonies precipitated the first acute manifestation. Had the first menstrual period followed closely on the seizure, it would have been regarded as a contributing cause, but the fact that it did not occur until 8 months after seems to eliminate this presumption.

Of the specific epileptic symptoms we have: unconsciousness, no distinct cause for each attack, the sudden onset, brevity of some attacks, and after the cessation of movements the occasional stupor or somnolence. In contradistinction there are the following purely hysterical manifestations: no aura preceding the attack, but occasionally some emotional excitement being the direct cause; noises of various sorts being made during the attack; no impairment of vesical and rectal reflexes; no biting of the tongue; and the rapid regaining of consciousness after cessation of clonic movements.

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Chloroform in Labor.—W. Gillespie, in the Cincinnati *Lancet-Clinic*, states that there is a positive element of danger in the administration of chloroform after labor as it increases the chances of postpartum hemorrhage.

THE BENEDICT MODIFICATION OF THE BOAS TEST FOR OCCULT BLOOD IN THE FECES.

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This method was presented by title to the 1906 meeting of the Medical Society of the State of New York and published in the *New York State Journal of Medicine*, May, 1906. So many inquiries have been received regarding the test that it may be pardonable to repeat the substance of the original paper in diagrammatic form. The test is, of course, the same in principle as the original Boas test, which likewise is merely an adaptation to feces of the time-honored guaiac test for hemoglobin. The present modification avoids the delay and

spurting of feces incident to extraction of fats which are inevitable when gasoline is not used. It seems to me neither more nor less delicate than the original Boas test. The guaiac test is not especially sensitive and nearly 10 per cent. of blood must be present in the feces

A.—Diagram showing the order and approximate quantity of ingredients of the test for occult blood. 1. Feces reduced if necessary to diarrheal consistency by addition of water. 2. Gasoline, which rises above Nos. 3 and 4 as they are added. 3. Fresh tincture of guaiac. 4. C. P. turpentine, exposed to air for from 4 to 8 weeks until greenish-yellow in color.

B.—Diagram showing the result after the test tube has been shaken and allowed to stand for a minute or two. 1. Emulsion of feces, guaiac and turpentine. 2. Gasoline ring colored greenish or bluish according to amount of hemoglobin.

THE PERCENTAGE INDEX VERSUS THE BACILLARY INDEX IN THE ESTIMATION OF THE OPSONINS.

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In a previous communication¹ I have drawn attention to certain fallacies which attach to Wright's method of estimating the opsonic content of the blood, and have shown that more accurate results can be obtained by estimating the percentage of phagocytizing leucocytes. By comparing the figure thus obtained with the figure corresponding to a specimen of pooled normal blood serum, terming the latter value 1, an index is obtained which is directly comparable to Wright's index. For routine work this method will be found more convenient than Wright's method of counting the organisms pro leucocyte and comparing the resulting figure with the corresponding one obtained with normal blood.

If for any reason, however, Wright's method is to be used, I should recommend that the percentage index be calculated at the same time; it will be found a useful check on the former and readily shows up errors that may have been made in counting, depending on clumping of the organisms, etc. As the percentage of phagocytizing

1. Jour. Exper. Med., viii, page 651.