CLINICAL LECTURES ON NERVOUS DISEASES.

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LECTURE II.

ANALYSIS OF ONE HUNDRED CASES OF EPILEPSY.

THE science of medicine is to be advanced by the careful collection of well recorded facts, rather than by general statements or unsupported assertions. No inquiry thus conducted with scientific precision can fail to be without value, and to add a mite to that store of positive knowledge from which must emanate all hopes of progress for the healing art. Our acquaintance with the nature of epilepsy is as yet in its infancy, and, although much valuable practical information has been put on record regarding this disease, it is believed that the following contribution may not be useless in either confirming or questioning previous conclusions.

The clinical aspect of epilepsy is especially difficult to investigate with exactitude. The physician, as a rule, is not himself a witness to the chief phenomena characteristic of the disease. He is, therefore, compelled, in most cases, to trust to the statements of the patient and his friends for their description; and, even when the cross-examination of these is conducted with the greatest care, there are many points almost impossible to ascertain with certainty. In the following cases of epilepsy, which have been under my own care, those only are included in which loss of consciousness formed the chief feature of the attack; and, in the succeeding particulars, attention will be specially directed to etiology, symptomatology, and treatment.

ETIOLOGY.—I. PREDISPOSING CAUSES.

Sex and Sexual Conditions.—Of the hundred cases of epilepsy, there were—males, 47; females, 53: showing that, practically, the sexes were affected in equal proportions. Of the fifty-three females, there were—unmarried, 31; married, 22. The greater number amongst the unmarried females is probably due to its including children, and also to the fact that epilepsy is not an attraction to a man who purposes matrimony. Of the 22 married females, marriage had no effect on epilepsy in 15; frequency of attacks diminished after marriage in 6; frequency of attacks increased after marriage in 1. Thus, in the large majority of cases, marriage seems to have no influence on the epileptic attacks. Of 17 of the married females, 14 had children, 3 had none.

Age.—In one hundred cases, the age at which the first attack of epilepsy took place will be seen by the following table.

	Males.	Females.	Total.
From 1 to 10 years	9	14	23
" 10 to 20	11	23	34
" 20 to 30	14	9	23
" 30 to 40	10	6	16
" 40 to 50	1	0	1
" 50 to 60	2	1	3

It will thus be seen that, in males, the most prevalent period for the first invasion of epilepsy is from the tenth to the thirtieth year; and in females from the first to the twentieth year. In both sexes, the disease rarely commences after 40. The following table shows the ages of the patients under observation.

	Males.	Females.	Total.
From 1 to 10 years	4	1	5
" 10 to 20	10	20	30
" 20 to 30	17	15	32
" 30 to 40	11	9	20
" 40 to 50	2	6	8
" 50 to 60	3	2	5

This indicates that cases of epilepsy comparatively rarely come under observation after the age of 40. A large series of cases would, however, be required before any definite conclusion could be arrived at as to the mortality and longevity of the patients.

Occupation or profession appears to have no special relation to epilepsy.

Hereditary Tendency.—In each of the one hundred cases under observation, a very careful inquiry was made into the family history. This was confined to the parents, grandparents, uncles, aunts, brothers, sisters, and children of the patient. The following are the results:—No family history of epilepsy, insanity, nervous or other hereditary dis-

orders in 59; one or more members of family affected with one or more of the above disorders in 41. Of these 41 cases, one or more members suffered from epilepsy in 26; from insanity in 5; from phthisis in 5; from asthma in 1; from apoplexy in 1; from hysteria in 1; from hemiplegia in 1; from spinal complaint in 1.

Concerning this statement, it is to be remarked that frequently the patient had several relatives suffering from different diseases; for example, one with epilepsy, a second with insanity, and so on. In such a case, those have been classified under epilepsy, if this did not exist under insanity or the affection of the greatest importance.

Of the 26 cases in which epilepsy was present in the family, it existed in the father in 3; mother in 2; father, mother, and brother in 1; mother and child in 1; grandmother, mother, and two sisters in 1; mother and sister in 1; grandfather in 2; grandmother in 1; brother in 3; sister in 3; two brothers in 1; sister and child in 2; brother and uncle in 1; two uncles in 1; uncle in 1; aunt in 1; child in 1. Of the five cases in which insanity existed in the family, it was present in the father in 1; mother, uncle, and aunt in 1; brother in 1; uncle and aunt in 1; uncle in 1.

The number of cases is too small to differentiate further. From these figures, it will, however, be seen that, in no less than 41 per cent., there was a distinct family history of hereditary disease, 36 per cent. of this being affections of the nervous system and 5 per cent. of phthisis. Of the patients, no fewer than 26 per cent. had relatives afflicted with epilepsy and 5 per cent. with insanity. Epilepsy, according to these figures, is eminently a hereditary disease, and it is possible, even to a greater extent than is here represented; for the family history is often very difficult to arrive at in the class of persons on whom most of these observations were made, who, either from ignorance or from prejudice, display a great want of knowledge concerning the health of their ancestors.

General Health prior to First Attack.—This was apparently good in 90; delicate in 10. This is also a difficult point to ascertain with accuracy, and by the term "delicate" is understood any chronic derangement of health. The figures serve to indicate that, in the large majority of cases, epilepsy attacks persons in a seemingly normal condition.

Special Illnesses prior to First Attack.—There were no former diseases in 78; former diseases in 32. Of these 32 patients, who, prior to the first attack of epilepsy, had suffered from illnesses, the details are as follows:—Convulsions at dentition, 15; rheumatic fever, 4; chorea, 2; mental derangement, 2; constant headache, 2; suppurating glands, 1; brain fever (?), 1; small-pox, 1; typhus fever, 1; spinal curvature, 1; somnambulism, 1; scarlatina, 1. The only special feature of this table is the fact that, of the cases of epilepsy under observation, convulsions at dentition were positively ascertained in 15 per cent. Here also the percentage is in reality probably greater, as it is obvious that most of the patients were ignorant as to whether or not this existed. There is no evidence that any of the other illnesses had any relation to the epilepsy.

Temperance or Intemperance.—Regarding temperance, nothing definite could be ascertained. The patients either do not tell the truth, or have very elastic notions as to moderation in the use of alcoholic stimuli.

II.—EXCITING CAUSES.

To ascertain the exciting cause of epileptic seizures with exactitude is usually a matter of very great difficulty. It is simple enough when the results directly follow the cause; but this is not commonly the case. If, for example, a man, after a blow on the head (having previously been in good health), becomes suddenly seized with epileptic attacks within a few hours or days of the accident, we may fairly assume that the injury has originated or developed his illness. But should the seizures not supervene for some months afterwards, the local wound having in the meantime completely recovered, there remains on this question a considerable element of doubt. In the same way, a patient often attributes the attacks to a fright which may have occurred weeks or months before the attacks began, yet great care should be taken in accepting such a statement; on the other hand, it should not be utterly ignored. Again, a person develops epilepsy after severe and prolonged domestic trouble or affliction. How are we accurately to determine the relation between the two? These difficulties render an exact method of determining the exciting causes almost impossible, and this can only be approximated by a careful consideration of the whole history and circumstances of the case. Taking these into consideration, the following statements have been drawn up, in which only those conditions are recorded in which, from a review of the whole case, a reasonable relation was found to exist between cause and effect.

Of 100 cases of epilepsy, there was no apparent exciting cause in 43; possible exciting cause in 57. Of these 57 cases, where a possible exciting cause was present, the following is an analysis:—Blow or injury to head, 16; uterine disorders, 13; domestic troubles, 9; disease of the

nervous system, 5; fright, 3; depression, 3; pregnancy, 3; mental strain, 2; sunstroke, 2; emotion, 1; coitus, 0. In no fewer than 16 per cent. did epilepsy follow injuries to the head.

In the 13 cases recorded under uterine disorders, it must be stated that these conditions were as much the accompaniments as the cause of epilepsy, the relations between the two being as follows:—Attacks occurring at menstrual periods, 8; attacks associated with irregular menstruation, 4; attacks associated with uterine disease, 1.

An attempt was made in twenty-one cases to ascertain whether, in women, the age at which the epileptic attacks began had any relation to the age at which the catamenia commenced, with the following results:—Average age at which attacks began, 14.6; average age at which catamenia began, 14.6: showing singularly enough exactly the same figures, and serving to point out, as far as these limited numbers permit, that, in woman, the earliest manifestation of puberty is a decided exciting cause for epileptic attacks. It must, however, be stated that, out of fifty-three female epileptics, the attacks commenced before the age of puberty in nine cases. Of the five cases included under the term "diseases of the nervous system", the epilepsy was associated with hemiplegia in four instances and with extensive injury to the sciatic nerve in one case.

[To be continued.]

ABSTRACT REPORT OF THE GULSTONIAN LECTURES, ON THE LYMPHATIC SYSTEM AND ITS DISEASES.

Delivered at the Royal College of Physicians of London.

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LECTURE I.

DR. CURNOW began by remarking that the lymphatic system has of late years become an object of special attention to anatomists and pathologists. For some time after William Hunter and Monro *secundus*, it attracted little notice; but recently much energy has been displayed in its investigation. As an anatomist, he felt much interest in its study, especially in relation to pathological conditions; and he believed the subject to be a specially appropriate one for the Gulstonian Lectures—one object of which, as he understood it, was to show the practical bearings of anatomical knowledge.

The older medical writers had a knowledge of absorption; it was mentioned by Hippocrates, Galen, and the Arabian physicians. The first mention of absorbents and lymphatic glands is due to Erasistratus and Herophilus. The lacteals, from their conspicuous appearance, may readily be supposed to have been seen earlier than the lymphatics. Erasistratus saw them in the mesentery of a sucking kid; but he believed them to be vessels into which milk had flowed. The view of Galen, that the chyle was conveyed to the liver and there converted into blood, prevailed for many centuries. Eustachius described the left thoracic duct in 1563; but it was not until 1622 that the lacteal vessels were discovered by Aselli—by accident, as he says. One day, he was demonstrating the recurrent nerves on a living dog which had just eaten food. On opening the abdomen, he saw a number of delicate white threads scattered through the mesentery. He at first supposed them to be nerves; but, on dividing one, a quantity of white fluid escaped. On the death of the animal, the white threads rapidly disappeared. The next day, he repeated the experiment on another dog, but without success; but, on examining a third dog after feeding, he again saw the vessels. He rightly supposed them to convey chyle; but he believed that they went to the liver. His view, however, as to the function of these vessels was laughed at by some, and was opposed by William Harvey, who supported the doctrine that the nutritive material was carried by the mesenteric veins to the liver, for the purpose of being converted into blood. Aselli (who died in 1626) had no opportunity of examining the lacteals in the human subject, in which they were first described by Vesling in 1634. In 1647, Pecquet discovered and described the receptaculum chyli and thoracic duct in the dog, and traced the passage of chyle from the lacteals to the vena cava

superior. About the same time, the thoracic duct was discovered in man. The portal vein lost the position which it had held as the supposed absorbent of food; and the liver ceased to be regarded as the organ in which chyle was changed into blood.

The lymphatics were first distinguished from the lacteals by Vesling. In 1651, Rudbeck observed the lymphatics of the large intestine, and traced them into the glands; and in the following year he demonstrated them to Queen Christina of Sweden. An angry discussion with regard to the merit of discovery took place between Rudbeck and Bartholin, who no doubt also saw them. Another claim to their discovery was put forth by Glisson and others in favour of Jolyff, a physician at Cambridge. In all probability, the lymphatics were discovered independently by these observers nearly at the same time. Further researches in the anatomy of the lymphatics were made by Stenson, Ruysch, Nuck, Duverney, Drelincourt, and others.

The lecturer alluded to the different opinions held as to the respective functions of the veins and lymphatics in absorption. The doctrine that the lymphatics were the special agents of absorption was apparently established by Hunter, Hewson, and Cruikshank, and prevailed until the time of Magendie, who in 1820 showed by experiment that the view was too exclusive. He mixed with the food various articles, which were all found in the venous system, and none in the lacteals. He also produced poisoning by introducing strychnine into a portion of intestine that was connected with the rest of the body only by an artery and vein; and in another instance he divided the artery and vein, connecting them by a tube, with the same result. Hence he concluded that all absorption was effected by the radicles of the veins. Dr. Curnow, however, believed that the truth lay between the extreme views. The substances used by Hunter and Cruikshank were mostly colloid, and would not pass through membranes; while Magendie employed substances that would pass. The experiments of Tiedemann and Gmelin showed that both classes of vessels were concerned in absorption; that odorous matters were taken up by the venous blood, and saline matters by both blood and chyle. The blood-vessels admitted all that could pass through their walls; the lacteals absorbed sugar and salts such as iodide of potassium. The lecturer here quoted the statement of Dr. Michael Foster as to the functions of the lacteals and veins in absorption, as giving a good idea of the subject.

The systemic lymphatics were made the subject of special investigation by Hewson, who showed their existence not only in mammalia, where they had been already recognised, but also in the vertebrata in general. Cruikshank described them in man, showing their existence even in the cranium; but his description of them in this situation was very imperfect. In 1789, Mascagni published his work on the lymphatics, and to the illustrations contained in it subsequent writers have been much indebted.

The lymphatic glands were described by the Arabian writers. Aselli traced the lacteals to a structure which he called the pancreas, lying between the layers of the mesentery; this was in fact a collection of the mesenteric glands, which in some animals, as the cat, are aggregated together. In 1660, Sylvius de la Boë gave them the name of conglobate glands. The function of these structures was much debated. Bartholin believed that they prepared chyle; Wharton and others, that they were nervous rather than vascular organs, and elaborated a juice from the nerves. Their greater comparative size in young animals was believed to indicate that they delayed the passage of lymph and chyle, and aided in adding material to the body. Hewson first described corpuscles resembling those of the blood in the lymphatic glands, and attributed similar functions to the thymus and spleen.

Speaking of the general anatomy of the lymphatic system, Dr. Curnow said that is an appendage of the blood-vascular system. There are three structures to be considered: lymph-capillaries, adenoid tissue, and crowded cells. When these are aggregated in the course of lymphatic vessels, and provided with a capsule, a lymphatic gland is formed; when there is a mere collection of these elements in the tissues, the name lymph-follicle is applied to it. The lymph-capillaries in the glands are not continuous with the blood-capillaries, but are separated from them by a layer of tissue. The lymph-capillaries consist of a single layer of flat cells, sinuous in outline. The larger lymphatics are generally described as resembling veins in structure, having three coats: an external or membrana adventitia; a middle coat, consisting of muscular fibres, mostly arranged in a circular direction, with some elastic fibres; and an inner coat of elastic fibres lined with sinuous flattened epithelioid cells. The valves of the lymphatics are more numerous than those of the veins. It was formerly supposed that the veins and lacteals absorbed by open mouths. Lieberkuhn described a minute foramen in each villus, leading into a single lacteal; Hewson thought that there were one or two such orifices; Cruikshank believed that each villus contained a radiating lacteal opening by several foramina on the surface. Mascagni