IMPERATIVE AND IMITATIVE TENDENCIES.

The one characteristic of the tic cases is the "imperative" tendency, expressing itself either in imperative movements or imperative ideas, or both. The characteristic of the hysterical cases is the imitative tendency; imitating, on the one hand, the actual choreic phenomena and, on the other hand, the actual tic phenomena or the actual paralytic conditions. It is for the counterfeit, the hysterical pseudosymptom, that we must look and distinguish it from the real. At times it is difficult to do this, especially in the younger subjects. On this point Oppenheim remarks:

Chorea may develop in a hysteric individual, and remain independently of the hysteria, or it may cause hysteria in predisposed persons; or a hysteric chorea may be present; i. e., a neurosis of motility on a hysteric basis which, notwithstanding a close relationship with true chorea, differs from it in many important points.

This expresses very well the problem which is presented in studying these particular cases. On the question of tic in this connection the same author remarks: "In a few cases we find a *partial chorea*, limited to the musculature of speech, or of the eyes, or to the muscles of the lips, tongue, pharynx or larynx. These are severe, although limited in extent and often very stubborn." I would complete this description by adding that attacks of this kind occasionally occur, presenting the severe somatic symptoms of chorea, and that they sometimes distinctly recur in the same manner, and that they sometimes alternate with the ordinary chorea.

It was in trying to characterize this kind of cases that I used the term "tic chorea," i. e., attacks of chorea in which the movements are tic-like. By "choreic tic," on the other hand, I had in mind the picture of certain cases of general tic in which, along with the tic movements, there is a general, jerking, dancing, choreic aspect. Some of these latter cases are called chronic chorea. Some have been mistaken for Huntington's chorea and for hysteria.

The paralysis of chorea I shall only consider briefly. It is often the first prominent symptom and sometimes the most important symptom of an attack. It is sometimes present in the absence of choreic twitching of the slightest kind. Generally, however, by careful observation, we will be able to find characteristic movements in some region of the body and often in the paralytic member or members. The paralysis is more often hemiplegic in distribution than some of the text-books would lead us to believe. It is rarely complete, however, and especially in two members of the same side at the same time. It is often hysterical or has a hysterical exaggeration about it. In some cases the hysterical element in the paralysis is very difficult to estimate. The pathology of it is obscure. In fact, we know nothing about it. Until we do we shall study these parietic phenomena with the same perplexed interest that they have always excited.

SPEECH PHENOMENA.

I will close this fragmentary communication by alluding to a choreic phenomenon which I have occasionally studied with much interest, but without much satisfaction so far as conclusions are concerned. I refer to the speech defect, and especially to some phases of it. As we all know, many of these subjects are very silent. In most instances it is evident that the difficulty is largely, if not entirely, one of motility. The presence of choreic movements in the speech organs makes it so difficult that the patient abstains from talking. In

others the silence is due to a sluggish general mentality. A more interesting condition is sometimes noticed in which there is some special psychic defect in the speech faculty; in short, an aphasic state. I recently studied a case of this kind in a girl of 10 years with a rather severe attack of chorea of the parietic type, with severe heart complication. Intellectually she remained very bright and cheerful for an attack of the kind. When the other parietic conditions were largely disappearing she developed an interesting aphasia, an apparent loss in the comprehension of language. Subsequently I satisfied myself that the condition was largely or entirely hysterical.

THE EYE SYNDROME OF DEMENTIA PRÆCOX.

PRELIMINARY REPORT ON OCULAR SIGNS AND SYMPTOMS OF DEMENTIA PRÆCOX AND THEIR SIGNIFICANCE, AS OBSERVED IN 115 CONSECUTIVE CASES.*

H. H. TYSON, M.D.

Surgeon, New York Ophthalmic and Aural Institute, New York City.

AND

L. PIERCE CLARK, M.D.

Senior Attending Physician Hospital for Nervous Diseases of New York City.
NEW YORK.

In 1899, Siglas saw a case of anxious melancholia, followed by mental confusion, evolve parallel with gastrointestinal autointoxication. Meyer reported five similar cases. The idea that dementia præcox is an autotoxic disease originated with Morro, who first connected hebephrenia with this cause in 1900. The evidence for its autotoxic nature may be grouped as follows: (1) There is a coincidence of certain ocular symptoms with gastrointestinal autointoxication similar, in many respects, to those seen in typhoid, lead colic, and simple intestinal putrefaction. (2) The urine in dementia præcox shows very defective elimination. (3) Fully one-half of the subjects of dementia præcox die of tuberculosis. (4) The co-existence of certain toxic dermatoses, such as certain types of erythema, vasomotor paresis, with chronic gastrointestinal intoxication, is noteworthy. (5) Some additional facts are at hand, as shown in the co-existence of psychic excesses, neurasthenia, etc., with states of autointoxication. (6) The study of the blood in dementia præcox shows evidence of a toxic state.

More specific evidence is at hand in Kuhnt and in Blin's work, especially the latter. In 1905 Blin published a monographic consideration of the autotoxic nature of dementia præcox. He attempted to show that the retinal changes are analogous to those seen in various acute and chronic infections. It is of passing historic interest to say that Dide and Assicot (1901) had already noted the alteration of anemia and congestion in the discs of dementia præcox. None of these various observers have made any thorough or systematic attempt to analyze the significance of the eye changes in dementia præcox.

The subject of the ophthalmoscopic changes in dementia præcox receives little attention in the most recent reference works. Our bibliographic research has unearthed but two studies in which the subject is considered. These are the general papers by Kuhnt and Wochenin on alterations in the retina in psychoses, and the work by Blin on the ocular changes in dementia præcox. Kuhnt and

* Read before the New York Psychiatric Society, November, 1907.

Wochenin¹ examined 511 cases of mental diseases with the ophthalmoscope. Of these there were 5 cases of hebephrenia. The other forms of dementia præcox are not mentioned. Pathologic changes in but one case are mentioned, presumably the others were not noteworthy. This one patient had pallor or anemia of the temporal half of the papilla.

The work of Blin is much more to the point. He examined the retina in 87 cases of dementia præcox. A second examination was frequently undertaken. Despite his extensive material, Blin appears to have made no careful analysis of the significance of the findings. Of the 87 cases some abnormality of the papillæ was found in 59. The material was divided into three groups. Nine cases (10.2 per cent.) showed constant hyperemia of the discs, and in 23 (36.8 per cent.) the congestion was transitory. Blin does not mention the condition of the blood vessels as to overfilling, tortuosity, etc., nor does he appear to have examined closely into the coincident eye symptoms necessary to establish an eye syndrome for dementia præcox. An anemia of the papillæ was constant in 7 cases (8 per cent.), and inconstant in 15 (25.3 per cent.). He uses the term intermittent in connection with the latter. There were 5 cases in which congestion alternated with anemia (5.74 per cent.).

Various points often mentioned in individual cases are not summed up, such as haziness of the border, or the absence of demarcation between papillæ and retina, predominance of lesion in one eye and the like. Doubtless all these facts seemed somewhat contradictory and did not lend themselves easily to a summary.

Three years ago we undertook an independent research² on the significance of the ocular signs and symptoms in dementia præcox. We have analyzed 115 consecutive cases. The work was undertaken with the view that a careful analysis of the eye symptoms in dementia præcox might throw some definite light on the uncertain and perplexing pathogenesis of the disorder. In this respect, we believe we have not been disappointed, inasmuch as we have found definite changes and symptoms in all cases which are fully distinctive of this psychosis.

The fundus changes as seen clinically may be divided into three groups, which are usually in the order of their occurrence, as follows:

1. Congestion of discs; hyperemia and edema; dilated, dark colored veins; slightly contracted arteries and blurring of the edges of the discs, all varying in degree. These changes constitute a low grade of perineuritis of the optic nerve.

2. Congestion of the nasal side, with temporal pallor of discs, dilated veins, contracted arteries.

3. Pallor of discs, dilated veins, contracted arteries. These changes constitute anemia and partial atrophy of the optic nerve.

One hundred and nine cases were examined with the ophthalmoscope; 55 were males and 54 females. The ages of the males were from 12 to 47 years, and those of the females were from 13 to 39 years.

All the different forms of dementia præcox were under study. While the results by form-types have not been fully analyzed, we are prepared to say that the

more marked changes in the eye syndrome were found in the more rapidly deteriorating types of dementia præcox.

The cases embrace those who have used alcohol and tobacco moderately or to excess, as well as abstainers. It is possible that alcohol and tobacco have contributed toward the clinical picture in some cases. In differentiating the pathologic condition of the optic nerve in tobacco and alcohol users from those in cases of dementia præcox, one observes central scotoma in the former. The one case showing a central scotoma for red in dementia præcox gave a history of alcohol and tobacco excesses. The disc changes in dementia præcox have some resemblance to those seen in the toxic amblyopia of tobacco and alcohol. But the fundus changes above detailed are seen in all cases under study. There is strong evidence that some other potent toxin is responsible for the disc changes in dementia præcox. We do not hesitate to say that we believe the toxin is primarily a vascular poison. Its most probable source is in the autointoxication (intestinal putrefaction is almost invariably evident from clinical symptoms) from the intestines or from the liver. It is possible that a faulty metabolism from a perverted action of some of the ductless glands (thyroid especially) may be the pathogenic agent. The primary departure from the normal in the disc is in the veins. They become dilated, tortuous and darker than normal. Edema of the disc appears shortly afterward. These changes are analogous to those seen in the passive congestion of the face and hands in dementia præcox cases. All these edemas produce such lasting disturbance in the nutrition of the optic nerve that slow degeneration of the nerve fibers finally results. Thus, of the 109 cases examined by the ophthalmoscope, a low grade perineuritis was found 62 times in the right eye and 67 times in the left. Temporal pallor, with nasal side congested, was found in the right eye 10 times, in the left eye 11 times. Pallor of discs was found in the right eye in 37 cases and in the left eye in 31 cases.

Inasmuch as the disc changes in the first stages resemble somewhat those seen in ordinary intestinal toxemia, we have repeatedly examined the discs in a number of cases while the patients were under active hygienic treatment of free catharsis, intestinal antiseptics, baths and dietetic regulations. A marked degree of betterment was noticed of the congestive margins of the discs, but the central edema and transitional pallor have continued. Indeed, while patients were under this treatment a general physical improvement was noticed, but the mental state seemed little improved.

Coincident with the study of the changes in the papillæ, the pupils were examined in 85 cases. The changes uniformly found here were not less significant. The examinations were made in moderately light rooms with the eyes fixing a distant object. The size of the pupils varied from 3 1/2 mm. to 7 mm., with an average of 4 77/85 mm., while the average of the control pupils (physician and attendants) was 3 68/85. An average enlargement of 1 9/85 mm. for dementia præcox over the normal was evident.

The light reaction was active in 71 cases and sluggish in 14. Consensual reaction was active in 68 cases and sluggish in 17 cases.

Accommodation and convergence were active in 71 cases and sluggish in 13. Hippus was present in one case.

The sensory pupillary reflex was slightly positive in 6 cases and negative in 79 instances. The psychic reflex

1. Ueber Veränderungen der Netzhaut bei Geisteskrankheiten. *Ztschr. f. Augenh.*, 1903, xlii, 89.

2. This work was undertaken at the suggestion of Dr. Clark and the greater part of the work was carried out in his service at the Manhattan State Hospital and at the Vanderbilt Clinic (Dr. Starr's service). Dr. Tyson made the eye examinations and is responsible for the detailed findings of the same. Both authors are jointly responsible for the interpretative significance of the study.

was slightly positive in 4 cases and negative in 85 cases. Piltz-Westphal reflex was positive in 2³ and negative in 85 cases.

Great care was exercised in measuring the pupils on account of the tendency of the eyes to change their visual lines. One is apt to complicate the accommodation and convergence reflex with the other tests. The negative reactions of the pupil appear to be due (1) to loss or partial loss of function through defective nerve innervation; (2) defect in attention; (3) diminished appreciation.

Corneal sensibility was diminished in 69 cases and present in 17.

The visual color fields were examined in 81 cases. All were found concentrically contracted. The largest field was 30 degrees. The smallest 0 degrees. The fields were practically abolished. The average of the 81 cases was 10.6 degrees, which was a marked contraction from the normal. This may be explained partially by the inattention of those patients, diminished capacity for externalization and finally, and not least, by the edema and congestion of the optic nerve (perineuritis) in the first stage of degeneration of the nerve and by the ultimate shrinkage of the new connective tissue in the partial atrophy of the nerve.

The changes in the discs, pupils, visual fields and corneal sensibility which, when taken together, constitute the new syndrome, are all in accord with each other. In our examination of all other types of insanity, imbecility or idiocy we have found no other condition similar to what we have outlined here for dementia præcox.

The clinical significance of these findings is of importance:

1. They indicate that dementia præcox is attended by such an early and constant syndrome of alteration and disc, visual field, pupil and corneal sensibility as to materially aid in diagnosing this psychosis. Consideration of the syndrome will particularly aid in the differential diagnosis of dementia præcox from the manic-depressive group, acquired neurasthenia, hysteria and the various forms of imbecility and constitutional inferiority.

2. The syndrome is a distinct contribution to the theory that dementia præcox is an autotoxic disease, and that the poison is primarily vascular, which finally induces neuronc degeneration. It points to a toxin of some sort, which is either a metabolic defect in the tissues (ductless gland defect) or, what seems more probable, that the poison is generated in the liver or in the gastrointestinal tract itself.

3. The syndrome is of prognostic value, as the severer grades of eye changes are found in the more rapidly deteriorating cases.

4. Finally, the optic nerve lesion is quite in accord with our best knowledge of the pathologic anatomy of dementia præcox, in other tracts of the brain (than the optic nerve which itself may be counted an analogue). The early vascular changes in the brain ought to receive more serious investigation.

We desire to thank Dr. Mahon and his staff, Dr. Smith of Central Islip and his staff, and the staff of assistants in the neurologic department of the Vanderbilt Clinic (Dr. Starr's service), and Dr. C. E. Atwood in particular, for the courtesies extended to us in placing their patients at our command.

3. At first positive, later examination was negative.

Special Article

THE AMERICAN ASSOCIATION OF MEDICAL MILK COMMISSIONS.

OTTO P. GEIER, M.D.

CINCINNATI.

It was while demonstrating the impure and dangerous milk supply of Cincinnati, before the Academy of Medicine, that Dr. W. H. Crane died suddenly on May 7, 1906. A vigorous, keen, intellectual, broad-minded physician, filled with the love of humanity, passing out in this tragic way, left a deep impression on the medical fraternity of Cincinnati. One month later the formation of a milk commission was proposed and a commission was appointed. Two personal friends of Dr. Crane took their places on this commission, and whatever they may have been able to accomplish in this work along with their associates, is but a reflection of his unselfish devotion to this cause.

In August, 1906, "certified" milk appeared in the Cincinnati market. Some few months later "inspected" milk, then "inspected bulk" for hospitals, and the further history of this commission differs little from that of earlier commissions. The Cincinnati commission placed a clinical and a household milk in the market, educated themselves as well as the physicians of their city on this topic, and used their influence to raise the standard and quality of the general supply.

A few months after the organization of this commission it addressed a series of twenty-five questions, covering every phase of milk commission activity, to the twelve commissions then known. An exhaustive tabulation of these replies formed part of a report to the Cincinnati Academy of Medicine in November, 1906. It showed that there was considerable diversity in supervision, in working methods, in bacteriologic and chemical standards, etc.

An invitation to hold a conference was issued Feb. 25, 1907, by the Cincinnati commission. An enthusiastic response was received from most of the commissions. From that time things moved quickly. A temporary organization was formulated, which mapped out a program and decided that the meeting should be held at Atlantic City, June 3, 1907, one day previous to the meeting of the American Medical Association. One hundred and twenty-five delegates were present. Members of commissions from New York to Oakland, California, elbowed with scientists and hygienists who had been devoting themselves to some particular phase of the pure milk crusade. Twelve commissions reported their methods and results. Dr. Coit, the originator of the medical milk commission idea, traced its early history and development, while other papers were presented on the more general topic.

A permanent organization known as the American Association of Medical Milk Commissions was formed. A president, secretary and treasurer and a council consisting of five members were elected. The executive officers are to be elected each year, while the members of the council were elected for one, two, three, four and five years, respectively, so that one member of the council will be elected at each annual meeting. Committees were appointed on (1) medical examination of employes, (2) chemical standards, (3) bacteriologic standards, (4) veterinary inspections, (5) protection against tuberculosis.

One clause in the constitution of this association gives the keynote of its life: "The purpose of this association shall be to federate and to bring into one compact association the medical milk commissions of the United States; to exchange views and to adopt uniform methods of procedure in the work of medical milk commissions; to fix chemical and bacteriologic standards; to determine the scope of veterinary inspections, and to foster and to encourage the establishment of medical milk commissions in other cities."

The conference agreed that a crusade for pure milk in any section could be best advanced by the establishment of a medical milk commission appointed by the county medical society.

It was likewise determined that the secretary should edit