

menstrual periods fall naturally into three groups, of which the two more unusual ones are illustrated by the cases herewith reported.

In the first and commonest form the uterine flow is replaced by bleeding from some other site, but there is no general hemorrhagic tendency. Such cases usually run a favorable course, so far as the general health is concerned, the vicarious hemorrhage causing no more unfavorable symptoms than normal menstruation.

In the second form, typified by Case I, the normal flow ceases and there is a general hemorrhagic tendency, with a picture like purpura hemorrhagica. The resulting anemia may prove fatal.

The third form, typified by Case II, is probably to be regarded as closely allied to, if not identical with, hemophilia. In the few cases recorded a family history of this disease is often lacking, but there are several common and suggestive features. There is generally a history of purpura, nose-bleed or severe bleeding from trivial wounds in childhood. The first menstrual period is apt to be associated with severe menorrhagia. The cases are spoken of as vicarious menstruation merely because, along with the normal monthly flow, there may be an exacerbation or a tendency to bleed present at other times as well. Uterine menstruation is absent in some cases, but in others, as in ours, it is excessive.

Surgeons are naturally and properly loth to operate on these cases of hemorrhagic diathesis. Yet it is natural to expect that ovariectomy will give relief where the condition shows a periodicity corresponding to the menses. Bartlett<sup>10</sup> removed the ovaries from a woman in whom normal catamenial flow was replaced by periodic bleeding from the stomach, the operation being undertaken for other surgical indications. Two months after operation the vicarious bleeding recurred and continued at regular intervals of three or four weeks. This is the only case I have been able to find where ovariectomy was done in a case of vicarious menstruation. The case obviously belongs to the first group of the classification suggested above. In my Case I, operation seemed very promising since the hemorrhagic diathesis existed only at the menstrual periods, and yet the loss of blood was such as to cause a progressive anemia. In cases where vicarious menstruation is merely a manifestation of hemophilia, operation is to be undertaken with more timidity, and is of course not to be thought of in severe cases. It promises fairly certain relief from one source of hemorrhage, viz., uterine menstruation, and it offers a probability of relief from the periodic exacerbations of the hemophilic tendency.

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<sup>16</sup> Bartlett: *Transactions of the International Medical Congress*, Ninth Session, 1887, ii, 321.

## SENILE TREPIDANT ABASIA. REPORT OF CASES.

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THE following cases are reported to draw attention to a peculiar disturbance of gait occurring in elderly people and presumably associated in some as yet inadequately explained way with general arterio-sclerosis:

**CASE I.** Mrs. C., eighty-three years old, was first seen Oct. 22, 1903. She gave the following history: Up to three years before she had considered herself well, except for the natural infirmities of advancing years. At that time she began to notice a disturbance in walking, particularly characterized by difficulty in starting. At times, when once started, she was able to progress fairly well, but the first movements necessary to taking a step were very much hindered, particularly when embarrassed by the presence of any one in the room. Going down a certain flight of stairs had become increasingly difficult and at the time of my first visit was impossible. The patient felt that she was growing worse.

Physical examination showed equal pupils with adequate light reaction, normal heart and no definite radial arterio-sclerosis so far as could be determined by ordinary methods of examination. The hand grasp on both sides was good; the reflexes of the arms lively, but not markedly different, with a probable slightly greater reaction on the left than on the right. The knee-jerks were both active, with a questionable Babinski sign on the left. No plantar reflex was obtained on the right. There was slightly greater difficulty in moving the left leg than the right. In general the patient appeared vigorous for one of her years and gave no indication of definite local or general disorder.

The point to which I desire to draw particular attention is her difficulty in locomotion. When standing and asked to take a step forward, it was practically impossible for her to do so by an ordinary act of the will. After much difficulty, hesitation and "muscular stammering," she was finally able to start the muscular movements necessary to walking, and still with much difficulty, taking short and uncertain steps, she was able to progress a certain distance with much show of effort. There was in this case no element of spasticity nor ataxia, nor could it in any sense be regarded as the gait of ordinary feebleness. The disturbance in locomotion, in other words, was out of all proportion to the other symptoms which she showed.

Certain exercises were prescribed which she followed out with faithfulness and with certain definite temporary improvement. When seen two weeks later she was distinctly better and was able to a certain extent to walk alone. At this time she complained of difficulty in writing very similar in character to that of walking. She was able to copy and write spontaneously correctly, but only after much effort.

She was seen again two years later, and during the interval had grown decidedly more feeble. She complained of spasmodic twitching of the legs at night sufficient to keep her awake. The reflexes were very active, still there was no ankle clonus, and the Babinski sign was altogether indefinite. As at the previous visits the left side showed slightly greater involvement than the right. The heart was arrhythmic and feeble; the

pulse 100; the radial artery stiff. She had practically given up the attempt to walk. Except for general enfeeblement, there was still no definite sign of intracranial or spinal disorder of a gross sort.

CASE II. Mr. M., referred by Dr. J. E. Goldthwait, Nov. 9, 1906. The patient was seventy-five years old, without occupation. He had not worked for four years, and had had difficulty in walking for from one and one half to two years. He complained that he "couldn't do as he used to, couldn't handle his limbs, which were like sticks." His legs, he said, gave out, and his ankles had swollen for six months past. He had, however, no subjective disorder of sensation; was able to sleep and eat well. He was slightly deaf through thickening of the drum membrane, but was not troubled either by headache or vertigo. He had noticed some shortness of breath and a sense of pressure across the chest, but there was no cough in the morning or at any other time. He thought that his left leg was more affected than his right, and complained of stubbing his toes through difficulty in lifting his feet. There was no definite pain in his legs, but occasionally he had sharp twinges running down his legs which he called rheumatism, from which he had suffered to a greater or less extent for some years past. He complained also of frequent micturition and lack of perfect control, especially when nervous. He had also been much annoyed by a tendency to emotionalism which manifested itself by crying again and again through the examination.

Physical examination was in general as follows: Pupils were equal, with good light and accommodative response; no disorder in the distribution of the cranial nerves; the strength of the arms was normal, with slight reflexes; they showed no motor or sensory disorder; pulse was 80; the heart sounds clear, with both the aortic and pulmonic second sounds sharply defined. There was a pseudo-Romberg sign; no general loss of sensation, and a doubtful disturbance in the muscular sensibility of the right great toe. Knee-jerks were within normal limits and essentially equal. There was no Achilles, clonus or Babinski sign. The normal plantar reflex was slightly developed. The strength of the legs was good. Examination of the urine showed no significant abnormality. Here again the striking peculiarity was the difficulty in locomotion without any apparently adequate underlying cause in the central nervous system. The same difficulty in starting and in progressing as described in the preceding case was found. The disproportion between the physical signs of disorder either in the motor or sensory tracts and the disturbance in locomotion was very striking.

CASE III. Mr. D., approximately seventy-two years old, was seen Nov. 30, 1906, in consultation with Dr. D. W. Cheever. The patient for the most part had led a sedentary and studious life, and for some years past had shown the inroads of time by general failing in strength. Physically he was handicapped by a marked curvature of the spine, rigidity of the spinal column and of the bordering muscles. He had presumably had two slight hemiplegic attacks in preceding years, one on each side, from which he had in general recovered.

Physical examination showed a high degree of radial sclerosis with somewhat weak heart sounds. The knee-jerks were active, but there was no Babinski phenomenon and no evidence whatever justifying the supposition of a systemic degeneration of the pyramidal tracts. Although the patient in general presented many indications of advancing years, these were wholly out of proportion to the extraordinary disturbance of gait from which he suffered and which had virtually made him a prisoner in his house. There was

no paralysis of the legs, and in general the muscular strength was sufficiently good. In spite of this fact there had been increasing difficulty in locomotion, characterized by extreme difficulty in starting, a tendency to shorten the steps more and more as progress was made, and the incapacity to make a movement forward of more than a few inches. The patient is obliged often to stop, after going a few yards, tired with the great amount of muscular effort which he has been called upon to make. This disturbance of gait is absolutely analogous to that observed in the previous cases, and like them is out of proportion to the general physical disability.

A fourth case comes to mind of a hospital patient, an elderly man, who presented the same characteristic disturbance. The exact records of this case are not at hand, but the vivid remembrance of the gait disturbance unquestionably justifies placing it in the same category as the cases described. He found the same difficulty in innervating the muscles necessary to start the movements of walking. If left to himself, he likewise found the greatest difficulty in progressing, although much assisted, as, in fact, all these cases were, by encouragement, explanation and method.

The foregoing striking disturbance of gait, as seen in these cases, is undoubtedly the condition described many years ago by Charcot, as senile trepidant abasia. This disturbance has been rather overlooked in the intervening years, no doubt from the fact that it comparatively rarely occurs in the characteristic form which is unmistakable. In a paper read before the American Neurological Association in June, 1906, Collins discussed the question of "A definite clinical variety of a cerebral arterio-sclerosis,"<sup>1</sup> and drew a picture which he regards as pathognomonic of cerebral vascular disease, even although no external signs of arterio-sclerosis appear. With this picture those who have had much to do with elderly patients, as seen, for example, in almshouses, are familiar, though the clinical picture may not have been so clearly defined in their minds as that which Collins draws. Speaking of the disturbance of gait observed in his patients, Collins regards it as not unlike and possibly identical with the trepidant abasia of Charcot. In one place Collins describes the gait as follows: "When he (the patient) attempted to walk, the feet wide apart, shuffled along the floor a few inches at each stride, the strides sometimes fast, sometimes slow, while he made balancing movements with the hands." In this description no reference is made to the stammering character of the gait, the inability to start, and the curious ineffectual attempts to make progress. It is, however, probable that the gait to which Collins refers, represented rather a difference in degree than in kind from that which I have described in the foregoing cases and which Charcot, no doubt, had in mind when he gave to it the name "trepidant abasia." However, this may be the gait, when fully developed, is unique and unmistakable.

The best discussion of this type of disturbed locomotion which I have seen is given in a recent exhaustive paper by Karl Petrén, in which he deals with the relation between disturbance of gait in old age, produced by anatomical lesions

<sup>1</sup> Collins: Jour. Nerv. and Ment. Dis., 1906, xxxiii, 750.

and by functional disorders.<sup>2</sup> In this article, to which Collins also refers, Petré<sup>n</sup> accurately describes the gait disturbance to which I wish again to call attention. His general conclusions are that arterio-sclerosis lies at the basis of the disorder, but that it cannot be said that the disorder of gait is directly due to the changes in the blood vessels. On the other hand, hereditary influences and hysterical conditions are not to be seriously considered. The explanation of the disturbed locomotion, according to Petré<sup>n</sup>, is that the sclerosis of cerebral vessels brings about a mental state producing a subjective feeling of difficult locomotion which then has a pathogenetic effect in the production of a "Vorstellungskrankheit;" in other words, the disturbance of gait is directly produced by a feeling of incapacity superinduced by structural, vascular changes.

However fanciful such an explanation may be, the type of disturbance certainly demands something more than a mere physical reason for its existence. Examination of the patients shows no sufficient physical incapacity to account for the gait. There is no paralysis; movements in other positions may be made with comparative ease and freedom; the individual muscular movements of walking may likewise be accomplished without difficulty, but the entire act of taking steps voluntarily results in the stammering tendency to which allusion has repeatedly been made. Explanation, encouragement and instruction, on the other hand, quickly produce results, and it is not difficult to induce such patients to walk with comparative ease through the use of such simple means. It is, therefore, apparent, as Petré<sup>n</sup> maintains, that we have in this interesting disturbance to deal with a mental defect, presumably dependent upon the senile changes of cerebral vessels which have, however, not led to sufficient injury to produce marked degeneration of the motor tracts.

At this time, when the general subject of arterio-sclerosis is demanding much attention, it is worth while to call attention to this trepidant abasia of the aged as illustrative not only of the infirmities which the vascular lesions themselves produce, but also as demonstrating the probable secondary effects upon the mind, which in turn lead to a lack of confidence, finally resulting in a practical incapacity for voluntary walking movements. The interest of these cases, therefore, lies not so much in the gait disturbance itself, as in the curious chain of events which finally brings it to pass. Much may, no doubt, be done in the way of treatment by perseverance, both on the part of patient and physician, in retraining the motor functions through an appeal to the will.

<sup>2</sup> Petré<sup>n</sup>: Ueber den Zusammenhang zwischen anatomisch bedingter und funktioneller Gangstörung (besonders in der Form von Trepidant abasia) in Greisenalter. Arch. für Psychiat., 1900, xxxiii, 818, 1901; xxxiv, 444.

**TUBERCULOSIS IN LONDON.**—Notwithstanding its fogs and supposedly unhealthy climate, London has a lower mortality from tuberculosis than many other European capitals. In 1904 it was only 166 per 100,000 inhabitants, as against 257.5 in Berlin, 254 in Milan, 256 in Madrid, 314 in Vienna, 383 in Paris, and 387 in Moscow.—*Med. Record*.

## Medical Progress.

### PROGRESS IN THE THEORY AND PRACTICE OF MEDICINE.

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#### BLOOD PRESSURE.

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