

Society Proceedings

BOSTON SOCIETY OF PSYCHIATRY AND NEUROLOGY

REGULAR MONTHLY MEETING, MAY 19, 1921

JAMES B. AYER, M.D., in the Chair

AN UNUSUAL CASE OF SYRINGOMYELIA

DR. J. W. COURTNEY

DR. COURTNEY exhibited a case of syringomyelia which was the second of its type he had seen. The patient was an unmarried Syrian, 30 years of age. His family history was negative. He had been a private in the 76th infantry and had had no illnesses up to the time of the present trouble. After entering the service in 1917 he developed gonorrhea. A Wassermann test made sometime subsequently was negative. After his enlistment he was sent to Waco, Texas, where he had to undergo long hikes in intensely hot weather. They were very exhausting and brought on a feeling of pain and numbness in the anterior portion of his right leg and right little toe. The pain and numbness would disappear on resting but the leg slowly got weaker. He remained at Waco ten months, was then transferred to Camp Logan and later to Camp Lewis where the leg was about the same. At Camp Lewis he was sick with some sort of infectious process and after that the leg was very weak. There had now appeared a superficial scar about the size of a silver dollar. This was reddish blue in color. The regimental doctor gave him something to rub in. He was discharged from the service in January, 1919. By this time the scar had spread somewhat. There was numbness in the scar but no pain. He went to work on a buffing machine in the Reo Motor Works. This buffer created intense heat, and he noticed that as it touched the scar no sense whatever of heat was felt. The sensation of cold was probably lost but this was not discovered. At the present time the scar has spread considerably, the anterior thigh and leg muscles feel very weak and the right anterior thigh feels numb. There is

pain in the anterior tibial group. There has been a suggestion of the same phenomena in the left leg.

The physical examination, recently made, shows the patient to be a well nourished and unusually muscular man (he states that prior to going into the service he could put up a 150-pound weight with the right hand). The gait is not remarkable in any way. Romberg is absent. The pupils are equal, regular, middle-wide and normal to tests of light, distance and consensuality. The fundi are normal. The facial muscles are normal. On movements of the eye bulbs to right or left, two or three nystagmoid oscillations are observed. The tongue and soft palate are normal, the spine normal in contour and flexibility. The muscles of the upper extremities, back and torso are normal throughout. The patient complains that the strength of the right upper extremity is by no means as great as it was prior to the onset of the present trouble. The heart area and sounds are O.K. The muscles of the lower extremities show no atrophy anywhere. Occasionally fibrillation is observed in a very small area in the anterior tibial region. The general strength of the extremity in question is not commensurate with the muscle volume. All forms of sensibility are everywhere preserved save over the lower anterior aspect of the right thigh. Here, in a region roughly three and one half by four inches there is a keloid formation somewhat red in color and traversed in part by veins. In this area, and for a short distance beyond its borders, thermal and pain sense is entirely abolished while tactile sense is partly lost. Muscle and joint sense are good. The arm tendon and periosteal reflexes are good. The knee and ankle jerks are present and equal but not very active. There is no clonus. The belly reflexes are good. The scrotal reflex on the right is markedly exaggerated. The plantars are present and equal but not lively.

The two outstanding features of the case are the low vertical site of the cord lesion and the fact that it is practically limited to the posterior horn of one side.

The pathogenesis is probably as follows: The hikes probably acted as a trauma, producing a hematomyelia. Then followed a gliosis, then a breakdown of the gliotic tissue and cavity formation. Oppenheim states that he has seen only three such cases. With regard to the prognosis generally in such cases Dr. Courtney spoke briefly of a particular case seen by him a number of years ago at the Carney Hospital. It was that of a woman, in whom at the time she was first seen, the disease was well developed.

He saw her again ten years later. Meantime she had borne three children. The disease had made no progress.

THE PATHOLOGY OF TRIGEMINAL NEURALGIA

DR. PERCIVAL BAILEY

The pathogenesis of the interesting malady known as trigeminal neuralgia is still unknown. In the days of peripheral operations examinations of avulsed nerves were made but the only finding at all suggestive was the so-called "beading" of the myelin sheaths reported by Mitchell and Spiller.¹ Later on, when the ganglion was removed, various reports of examinations began to appear, but of these only in four cases have they been concerned with nerves not previously subjected to operative interference. Head,² Monari³ and Coenen⁴ reported the ganglia they examined to be entirely normal. Schwab⁵ thought there was some increase in interstitial tissue in his ganglion. This was probably an error in interpretation, but even if correct is an unessential finding because no changes were found in the nervous tissues.

During the past year I have had opportunity to examine eleven ganglia from Dr. Harvey Cushing's operations, in only one of which, however, had there been no previous operative interference. Sections were available for comparison from fourteen other cases in which there had been no previous operative measures.

In the one previously unoperated case, E. P., Surg. No. 14016, age 50, the ganglion was placed immediately in 96 per cent. alcohol and stained with thionin. The specimen might have served as a model for one of von Lenhassili's plates. The ganglion cells were perfect. Neither could any pathological changes be seen in any of the other structures. Sections from fourteen other ganglia previously unoperated were examined and in none was any marked pathological change found. Three of them were fixed in formalin and stained by Marchi's method; three were fixed in formalin and stained with H. & E., and eight were fixed in Zenker and stained with H. & E. or methylene blue eosin. In the Marchi specimens considerable fat was revealed but not resembling that of a secondary degeneration. For the most part it consisted of the fat which normally increases in the connective tissues of the aged and

¹ Mitchell (and Spiller), *Jour. Nerv. Ment. Dis.*, 25, 400, 1898.

² Head, *Albutt's System of Medicine*, vol. 8, p. 724.

³ Monari, *Brun's Beiträge*, 17, 495, 1896.

⁴ Coenen, *Archiv f. K. Chir.*, 67, 333, 1902.

⁵ Schwab, *Ann. Surg.*, 38, 696, 1901.

the dirty deposit to be found in any nervous tissue which has stood in formalin. There was no "beading" of the myelin sheaths as described by Spiller. The H. & E. specimens were examined especially for any possible increase in interstitial tissue and none was found. In the interstitial tissue of spinal ganglia as well as the trigeminal are found numerous collections of closely grouped nuclei which resemble round-celled infiltrations. They have no pathologic significance. The arachnoid may be seen at operation in some of these patients to be thickened and adherent but the same may be said of aged individuals who never suffered from trigeminal neuralgia. We may conclude, then, that the ganglia from patients with trigeminal neuralgia are essentially normal.

Eleven ganglia were examined from patients who had previously been subjected to peripheral procedure. In them also the pathological changes found were exceedingly meagre. One was studied by Marchi's method; two by the Marchi-Mallory combination of Jacob and the Marchi-Mann combination of Alzheimer; four by Alzheimer's method V on frozen sections; two by Nissl's method; and two by Billschowsky's on frozen sections and Has-sin's Billschowsky-Mann combination.

In neither of the Nissl preparations was there any sign of reaction at a distance. The ganglion cells where they had not been crushed by the scissors were well-formed, filled with tigroid, the nuclei centrally situated and no increase in fat or pigment content. The Marchi preparations showed rarely the "balls" of material which stain with osmic acid as Spiller has described, but counterstaining, according to Jacob or Alzheimer, showed absolutely no reactive phenomena on the part of the Schwann cells. This finding cannot be accounted for. The material, whatever it is, lies within the myelin sheaths. There are absolutely none of the phenomena of secondary degeneration. Alzheimer-Mann and Billschowsky preparations showed rarely a swollen or distorted axone, never a fragmented one.

We may conclude that aside from senile changes in the connective tissue and parenchyma alike and occasionally reaction at a distance in the cells of the peripheral operations, the ganglia from cases of trigeminal neuralgia are normal, and after all, there is no reason to suppose that any more will ever be found in these ganglia. The essential pathological lesion in this disease must lie in the periphery. The very fact that section of the nerve trunks at the peripheral foramina stops the pain until the nerve again regener-

ates is sufficient to establish this point and after peripheral operations there is no reason to expect any changes in the ganglion other than the well-known minor ones in the cells, for the phenomena of secondary degeneration occur peripheral to the section and not central. The essential lesion in this disease must be looked for in the region of the nerve endings. The same opinion was recently expressed by Harris.¹ So far as I know the nerve endings have never been examined. Certain clinical facts are consistent with this view such as the initiation of the pain by cold air which causes reflex constriction of the skin vessels; by talking, during which the skin is irritated by superficial muscles, etc.

DISCUSSION

DR. HARVEY CUSHING mentioned as an argument opposed to Dr. Bailey's views the fact that the character of the pain, its unilateral situation, the manner of its spread, all speak against the end organs as the possible seat of the lesion. Division of the nerves as well as alcoholic injections lead to certain changes in the ganglion which may be sufficient to inhibit for a time the discharge of paroxysms. It must be said, nevertheless, that trigeminal neuralgia is much more often bilateral than is commonly observed. About a year ago all the old gasserian cases in his series were communicated with and replies were received from about 90 per cent. of the 360 cases. Possibly 4 per cent. or 5 per cent. of these patients after several years had begun to have pain on the other side. It is a curious thing that true neuralgia of this type proceeds by a definite march. It goes from first to second to third or from second to third to first, it never jumps from first to third or the reverse which would imply that the process lies in the center rather than in the peripheral nerve endings.

DR. J. W. COURTNEY saw a confirmation of Dr. Bailey's conclusion that the lesion in trigeminal neuralgia is peripheral, in certain clinical facts. He stated that, in a considerable number of cases of migraine, certain attacks were characterized by pain limited strictly to the first and second divisions of a fifth nerve, with temporary residual tenderness on pressure of these divisions. From this he argued that inasmuch as migraine results from a vasomotor ataxia, it was not unlikely that the pain in *tic douloureux* was the result of vasoconstriction of the nutrient arteries of the trigeminal. This notion appeared to him all the more tenable by reason

¹ Harris, Brit. Med. Jour., May 22, 1920.

of the fact that genuine tic douloureux most commonly occurs in people in whom arteriosclerosis is more or less advanced.

DR. HARVEY CUSHING, in answer to Dr. Courtney, called attention to the fact that patients with major neuralgia were often young people, some actually in their teens. A case cited was that of a young Canadian who began to have trouble when he was sixteen years old. He was practically incapacitated by major neuralgia of the most extreme type and was seen by many neurologists who could not believe that it was a true tic. This went on until he was twenty-six when he was finally operated on. This was twenty years ago and he has remained perfectly well having recently had a four years' war service.

Many of these patients show some disorder of the teeth, or an infection of the sinuses. Some of them, too, have a history suggestive of migraine but trigeminal neuralgia very rarely starts in the brow. Probably 60 per cent. start in the second division, 30 per cent. on the third division and only about 10 per cent. in the first division. When there is primary supraorbital pain one must be very suspicious of its nature.

DR. PERCIVAL BAILEY, in answer to Dr. Cushing, said that the usual march of symptoms from one branch to another was more consistent with a peripheral origin for if the disease processes were central one might expect more often involvement of all three branches. The fact that one gets only a small part of the ganglion is offset by the fact that the part always removed contains the cells of the third division which is most frequently involved.

Dr. Ayer's remark may be answered by noting that section of the nerve peripheral to the foramina will not stop the pain in luetic basillar meningitis. The origin of the pain is not identical with that of trigeminal neuralgia.

LUMINAL POISONING

DR. A. H. RUGGLES

When originally introduced in this country early in 1913, the dosage of luminal was given as from one and one-half gr. up to 12 gr. In the Journal of the American Medical Association, May 17, 1913, Dr. F. J. Farnell reported two cases showing toxic symptoms after the administration of luminal as a hypnotic. As far as is known there has appeared in the American literature no similar report of the toxic effects of this drug, and it is for the purpose

of again calling attention to the possible toxic effects of luminal that this case is reported.

E. G., female, aged 39, married, has always been somewhat nervous, was restless, tended to worry unduly and could not stand fatigue or excitement. Has been married five years and has had no children, on the advice of her physician. About a year and a half ago, had an attack of influenza. Following this, became more nervous and during the spring of 1920 was in bed most of the time, unable to do any work. Has continued in bed most of the time since. Her chief complaint was sleeplessness and for the nine months previous to her admission to Butler Hospital she had taken 3 gr. of luminal every night, with the exception of eight days when she tried to get on without it. During that time she slept brokenly or not at all. The luminal was given in the dosage of one and one half gr. at bedtime and another one and one half gr. when she woke up during the night. On admission to the hospital she had a slow, slurring speech and a wiping-out of the lines of facial expression. There was a muscular incoördination of both arms and legs, with a difficulty in standing alone and a slow, unsteady gait. There was no sensory disorder. There was a tremor of the lips. Pupils were large, but reacted to light and accommodation. Her deep reflexes showed no disorder. Luminal was at once discontinued, but the disturbance of speech and gait continued for about two weeks. At the end of three weeks all the above-noted symptoms had disappeared and the patient has now recovered her former degree of health.

This case seems to show that there is the possibility of toxic effects from the continued administration of luminal even in relatively small doses.

DR. WILLIAM F. BOOS stated that he had used luminal since 1913. It is a drug which must be used with the greatest discretion and if so used is very valuable. Its action is very much the same as that of all the drugs of the barbituric acid group. It is very closely related to veronal. The symptoms of luminal poisoning are similar to veronal poisoning except that they are accentuated. The dosage of luminal should never exceed three to five grains a day and it is better not to exceed three grains. A number of epileptic patients under treatment with luminal have never shown any chronic effects. At times there has been a slow, scanning speech but that was when bromides were taken in addition to the luminal. The rash which is sometimes seen is brought on by the other

preparations also. An interesting experience with veronal was with a lady who was in the habit of getting very much intoxicated and lately had been using perfume. She was given large doses of veronal, luminal, a little choral and bromides. The next morning she awakened quite refreshed but complained of the doses being too homeopathic. During that day she drank more alcohol in various forms and became very much intoxicated. The next morning she sent to the drug store for a tube of ten veronal tablets. When seen not long after she had taken seven of them, 35 grains of veronal in less than six or seven hours and she showed the symptoms that have been described as luminal poisoning. She appeared intoxicated, spoke with difficulty and her eyes had a peculiar dilated effect. She was unable to walk. Later she obtained three more veronal tablets, taking ten tablets in less than ten hours. The next morning she was apparently all right. Undoubtedly the after effects of the alcohol acted as an antidote to the drug. Had she been a normal person she might have been seriously ill as a result but as pain is an antidote to morphine so the extreme nerve irritation that she suffered, the sleeplessness and restlessness and the sense of fear, were so powerful that they succeeded in counteracting such a powerful drug as veronal. The effect on walking is very marked in all these drugs.

The main point is that the action of luminal is very similar to that of all the derivatives of barbituric acid except that it seems to be the most powerful.

A drug which can be very strongly recommended is bromural. It is very much milder in its action and is practically harmless. It is also a derivative of urea. A young girl who attempted suicide took at one sitting more than 50 tablets. She went to sleep and slept for 48 hours and then awakened refreshed. The correct dose is usually two five-grain tablets every three hours.

DR. DONALD GREGG mentioned a patient who, under luminal treatment, became quite euphoric and pugnacious and much more troublesome than before it was given. He was given luminal for about two months. The epileptic attacks seemed to be abolished but he became very hard to manage. There was no particular drowsiness or difficulty in walking.

DR. A. H. RUGGLES, in answer to Dr. Gregg's remark, stated that he had never seen the condition described. In connection with Dr. Boos's case, he referred to a case of poisoning with this group of drugs in which the woman first took 90 gr. of medinal, then

110 gr. of veronal, and then 200 gr. of veronal without any prolonged ill effects. There must be a good deal of individual idiosyncrasy in the reaction to these drugs, for there has been reported in the literature a case of death from 15 gr. of veronal.

ANHEDONIA

DR. A. MYERSON

DR. MYERSON reviewed this symptom complex which he calls anhedonia and which he describes as being made up of four principal changes. First, the disappearance or interference with the great organic sensations, second, the loss of desire consequent upon the disappearance of hunger, thirst, etc., third, the loss of the feeling of satisfaction,—that is, there is neither desire nor satisfaction,— and fourth, an increased diffusion of excitement, which tends to make the patient seclusive, self-conscious and gives rise to feelings of unreality. The etiology is believed to lie in changes of some sort, produced in the springs of desire and satisfaction, to wit, in the vegetative nervous system, the endocrines and the viscera.

DISCUSSION

DR. H. I. GOSLINE remarked that Dr. Myerson had taken certain symptoms from a number of diseases and led them back to certain psychological categories. In introspective psychology the organic sensations form one of the fundamental groups. The next step would be to work back to the enteroceptive nerve fibres, the glands of internal secretion and all other anatomical entities capable of reaction and inhibition. Here is the beginning for a rational psychoanalysis instead of an interpretative psychoanalysis.

DR. MYERSON pointed out that the condition he had been describing was a syndrome. It may be traced back as Dr. Gosline suggested to a physio-psychological and endocrine basis. All the psychoses may be traced to a physiological basis. This condition occurs in many diseases and it is the cardinal symptom in the manic depressive group. Whenever the energy content of the individual becomes disturbed this condition tends to occur. It is a basis reaction of the human to anything that interferes with his outward energy.

Dr. J. B. AYER asked if a general metabolism test had been done.

DR. MYERSON replied that it had not and he doubted if anything would have been found.

IS THE FACT OF A PSYCHOTIC PERSON BEING
THE ELDEST OR YOUNGEST IN A FAMILY OF
ETIOLOGICAL IMPORTANCE?

DR. E. M. PEASE

The following study was made of cases selected from the manic depressive and dementia præcox groups, forty cases from each group and an equal number from each sex in the two groups. These two psychoses were selected because they furnish 40.48 per cent. of all first admissions to the state hospitals in twelve different states during the year 1919, according to statistics compiled by the National Hygiene Society. They also represent 25.80 per cent. per 100,000 of the general population.

As heredity forms one of the most important of the assigned predisposing causes in these two psychoses, a possible reason for this was assumed as being due in part, at least, either to immaturity of the gonadal plasma of the parents on the one hand at the time of conception of the first child, or on the other hand, to the beginning of involutional regressive changes in the parents at the time of conception of the youngest child. As a further development of this suggestion is the possibility that the imbalance in the eldest child may be due to the instability of the endocrine glands other than the gonads in parents of immature years or in the case of the youngest to an atrophy or reduced functioning of the parental endocrine glands due to advancing years.

The group of cases studied was unfortunately very small owing to incomplete data in many of the records selected. To be more conclusive, the study should include the other psychoses, also a comparison with the corresponding group of families where there have been psychotic members. It is hoped that such data may be presented later.

The results reached were as follows: Of the whole series 27.5 per cent. were the eldest and 18.75 per cent. the youngest. The whole series also showed 30 per cent. of the males to be the eldest and 12.5 per cent. the youngest; of the females, 25 per cent. were the eldest and 25 per cent. the youngest.

Grouped according to psychoses:—in the manic depressive series, 32.5 per cent. were the eldest, and 15 per cent. the youngest. Of these 30 per cent. of the males were the eldest and 10 per cent. were the youngest and of the females 35 per cent. were the eldest and 20 per cent. the youngest. In the dementia præcox series, 22.2 per cent. were the eldest and 22.2 per cent. were the youngest; distributed as follows according to sex: 30 per cent. of males were the eldest and 15 per cent. the youngest, and 15 per cent. of females were the eldest and 30 per cent. the youngest.