

A severe lumbago appeared thirty-six hours after operation, lasting four days, which was controlled by aspirin. For seven days following operation the patient was free from pain around the ear, and during this period free swabbing of the canal caused no discomfort. The paroxysm, however, returned with increased severity on the eighth day, but slightly altered in distribution. Five spots of acute pain and tenderness appeared as follows:

- (1) Over the angle of the left lower jaw.
- (2) Two inches above and a little anterior to the meatus.
- (3) Two inches posterior to and on the same level with no. 2.
- (4) Two and one-half inches directly posterior to the meatus.
- (5) Two inches posterior to the tip.

The coming of an attack was heralded by a dull, grumbling ache and gradually increasing tenderness in spot No. 2, after several hours of which the pain would spread equally to the other four. This pain was described by the patient as of an "intense boring" character. In addition there was the sensation of a band around the head being gradually tightened.

Morphine was the only drug which had any effect on the pain, but appeared to have no result for two or three hours after administration, when the paroxysm would gradually subside. Attacks were now lasting the greater part of the night, leaving the patient utterly exhausted. No evidence whatever of accessory sinus disease was found, nor of any aural complication to account for this extraordinary pain. The general condition was excellent except for the exhaustion from long-continued pain and sleepless nights.

Dr. George L. Walton saw the case on Feb. 1, and after a thorough examination investigated the teeth, which were found in excellent condition, with the exception of the impaction of the left lower wisdom tooth against the second molar. Again on touching the canal a fairly severe paroxysm resulted. No other possible cause for the pain being found, it was decided to extract that wisdom tooth, and accordingly on the next day the patient was etherized and Dr. Miner removed the tooth by chiseling away the alveolar process.

For the two weeks following this operation the pain recurred after each dressing of the cavity in the jaw in addition to the daily evening attacks. The latter, however, were much less severe until Feb. 15, when the paroxysms increased in intensity and duration for five nights, on the last of which the patient had no relief throughout the night. This seemed to be the climax, as after Feb. 20 the pain became very much less severe, intermittent, and finally decreased to such an extent that spot no. 2 would only occasionally be the site of a slight ache. The pain persisted in this way until May 1.

On Feb. 16 x-ray plates of the head were taken by Dr. Percy Brown for the purpose of (a) demonstrating the position of the remaining wisdom teeth; (b) determining whether or not there was sinus involvement; (c) experimental mastoid plates.

Of the remaining three wisdom teeth the left upper was found to be impacted, being descended but halfway and impacted against the second molar. The accessory sinuses were negative. The plates of the mastoid regions are interesting in that the reliability of mastoid x-ray photography is demonstrated, the right mastoid appearing as of the small-celled variety, the left (operated) bone showing no cellular structure.

Upon careful inquiry into the previous history, the patient's mother remembers that at the age of twelve a tumor appeared in the roof of the boy's mouth which was found to be a tooth descending some distance be-

hind the normal alveolar line, and to remove which considerable chiseling was necessary. The patient himself remembers, and the family physician as well, that at that time he suffered intensely for about three weeks from severe headaches. An x-ray of the teeth was taken at the time, but the dental surgeon has lost track of it, and also of the records of the case.

The paroxysms of pain were at first naturally considered to have their origin in the acute inflammation of the middle ear and mastoid, the onset being coincident with the aural infection. During convalescence, however, some days after the middle ear had become dry, when gently wiping the canal produced a paroxysm of pain, it did not seem reasonable to any longer take it for granted that the pain had an aural origin. Undoubtedly the real cause of the tic in this case would have been found earlier had x-ray plates been taken at the time that sinus disease was suspected, or shortly after the mastoid operation, which would have been done at that time if the condition of the patient had allowed a trip to a Roentgenologist. The abnormal position of the wisdom teeth on the left side was so plainly visible in the "sinus" plates that it must have attracted the attention on the most casual examination.

Since my experience with this case I have read very interesting accounts of cases of mental and nerve trouble originating in impacted teeth and infected roots in "Insomnia and Nerve Strain," by H. S. Upson, M.D., of Cleveland, Ohio.

NERVE ROOT IRRITATION IN LUMBAR PUNCTURE. REPORT OF A CASE.

BY FRANCIS M. RACKEMANN, A.B.,
AND
E. W. TAYLOR, M.D., BOSTON.

(From the Neurological Clinic, Massachusetts General Hospital.)

THE following case is briefly reported to indicate a possible mishap in the performance of lumbar puncture.

The patient under consideration, a man of fifty, a machinist by occupation, came to the Out-Patient Neurological Department of the Massachusetts General Hospital in November, 1911, complaining of weakness and numbness of the right side, especially involving the arms and legs. There was nothing of significance in his personal past history or in the history of his family. He had led an active life, and had worked industriously. His habits were good.

During an exceedingly hot period in July, 1911, after some exertion, he suddenly fell unconscious and remained so for an hour and a half. He recovered, however, from this attack and was apparently well for ten days. At the end of this time, blurring of vision, loss of memory and weakness of the right side supervened. Since then he had had no similar attack, but in general he had not recovered his normal condition. His blood pressure had never been above 120, and the physical examination in general showed little of significance that was abnormal. The pupils were equal and reacted possibly somewhat sluggishly to light. The fundi were uninvolved; the knee-jerks were feeble, and there was considerable swaying on standing with the eyes closed. There was no satisfactory objective evidence of arteriosclerosis, and Wassermann reactions, both with the blood and spinal fluid, were negative. A provisional clinical diagnosis of cerebral arteriosclerosis was made.

The interest of the case for our present purpose, however, lies simply in the immediate effect of the lumbar puncture. After the usual preliminaries, the

needle was inserted between the third and fourth lumbar vertebræ to the right of the median line. With some slight difficulty, the spinal canal was reached, but fluid did not immediately flow. In the attempt to obtain fluid, the needle being slightly withdrawn and again thrust forward, there was a sudden sharp contraction of the right gluteal muscles and of the posterior muscles of the thigh, associated with intense pain. He described his sensations as "burning" and "prickling," and as "like a current of high voltage shooting down the back of the leg." He also complained of a somewhat similar sensation in his arm, a statement to which, no doubt, small importance is to be given. In moving the needle, still in the vertebral canal, the muscles of the leg contracted apparently when the needle was at a certain angle. This the patient described as if "the needle made an electric connection, causing the pain, which lasted until the connection was broken." As soon as the fluid was obtained, which was certainly within two minutes, the needle was quickly withdrawn, with an immediate cessation of the discomfort described above.

The puncture was done at eleven in the morning. The patient was exceedingly pale and somewhat near collapse during the operation, but recovered sufficiently to go home without undue discomfort. At three in the afternoon he attempted to take a walk, and at four had a violent chill, which lasted for about five minutes, after which he lay down and "had alternate chills and fever four to five hours," as he described his feelings at that time. There was no evidence that he had an actual rise in temperature to account for the sensations. At about six that night, seven hours after the puncture, he began to have a violent headache, with pain also through the body, — worse in the right leg and base of the spine. This was so excessive that he could neither sit down with comfort nor lie, and spent the night in walking about the room. This condition continued throughout the second day and until the early morning of the third day, when for the first time he was able to sleep for a few hours, and awoke comparatively free from pain, with some appetite, but much general weakness. For the ten succeeding days, he had a dull pain in the right gluteal region, described by him "as though he had been kicked by a horse." This pain was aggravated by walking and was easily brought on with greater intensity by holding the leg in an abducted position.

When again seen, some weeks after the foregoing experience, he made no further complaint of pain or discomfort of any sort.

This case is of a certain importance as an illustration of one of the unexpected complications of lumbar puncture, — ordinarily a simple procedure. The patient was a man slender in build, and physically in a condition entirely satisfactory for the operation. He was also a person evidently of good courage and capable of standing much pain without weakening. It was clear to those who were present that his suffering was extreme during the short period of spasm of the muscles. A natural explanation was that in the manipulation of the needle within the canal, one or more of the sacral nerve roots was either actually penetrated or impinged upon, leading to the manifest signs of nerve irritation which supervened so long as the needle was held in that position. This would seem to be an unavoidable accident, and one, of course, not associated with any permanent harm. The immediate effects, however, in this

instance were startling and entirely incapacitating to the patient for a period of three or four days. He took the situation in good part, and in describing it afterwards evidently had no ill feeling in the matter. His statements were evidently not exaggerated, and he expressed no resentment whatever.

Lumbar puncture has been established as a safe procedure in the absence of undue intracranial pressure. In most of the deaths which have occurred, of which there are now about thirty, post-mortem examination has revealed excessive pressure within the cranial cavity. In general, therefore, as long recognized, lumbar puncture should be avoided or undertaken with particular caution in cases of intracranial pressure. Quincke¹ mentions the actual injury of the nerves of the cauda equina during the operation, but such a mishap must be regarded as very unusual. With regard to the general question of indiscriminate lumbar puncture, it appears that somewhat more conservatism is desirable. In a considerable proportion of the cases, headache of a persistent and annoying sort occurs, lasting a variable time after the puncture. To avoid this, Curschmann² has advised the injection of sterile salt solution into the spinal canal equal in amount to the fluid withdrawn. This has been tried in a certain number of cases at the Massachusetts General Hospital with apparently favorable results. Such an event as that described in the case reported above must always be regarded as a possibility and one which under certain circumstances might be associated with very considerable annoyance to the physician as well as to the patient. In this, therefore, as in other simple surgical procedures, it is desirable to forewarn the patient as to the possible discomfort which may follow the operation, rather than to assure him to his possible disappointment and indignation that it is a perfectly harmless and painless procedure, without other significance to his comfort than the immediate prick of the needle.

Reports of Societies.

NEW ENGLAND PEDIATRIC SOCIETY.

THE seventeenth meeting of the New England Pediatric Society was held at the Boston Medical Library, Oct. 21, 1911.

The following papers were read:

- (1) TWO CASES OF HYPERTROPHIC STENOSIS OF THE PYLORUS.³

C. A. PORTER, M.D., Boston.

- (2) AMAUROTIC FAMILY IDIOCY.⁴

RICHARD M. SMITH, M.D., Boston.

- (3) A CARD FOR THE RAPID CALCULATION OF MILK MODIFICATIONS.⁵

J. HERBERT YOUNG, M.D., Newton.

- (4) METHODS OF FAVORING PROTEID DIGESTION.⁶

ROBERT B. HUNT, M.D., Boston.

¹ Deutsche Klinik, 1901-1906, p. 349.

² Deutsche Med. Wochenschr., Sept. 29, 1911.

³ See JOURNAL, p. 378.

⁴ See JOURNAL, p. 370.

⁵ See JOURNAL, p. 372.

⁶ See JOURNAL, p. 367.