

Periscope.

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LUMBAR PUNCTURE.

Caillé (Archives of Pediatrics, Aug., 1896) reports eighteen cases in addition to the three which he has already reported. No difficulty was encountered in puncturing, no anæsthetic was employed, and in only two cases did a rise in temperature follow the operation. In most of the cases the pressure of the fluid was such as to force out the piston of the syringe.

The author considers the operation easy to perform and of very considerable diagnostic value. He has made an attempt to add to it a therapeutic measure, as shown by the following paragraphs.

"It will naturally occur to any one working in this line that a liquid may be just as readily injected into the spinal canal as it is removed therefrom, particularly after the pressure of the fluid has been diminished.

"This I have done in two cases with a view of favorably influencing the course of an otherwise incurable tubercular meningitis and in hopes of gaining somewhat similar results as we obtain in the local treatment of tubercular peritonitis.

"The two cases prove to me that a more thorough washing of the sub-arachnoid space is necessary in order to make an impression upon a case of tubercular meningitis. At the next opportunity which presents itself I propose to lay bare the dura by removing a button of bone with the trephine and irrigate the sub-arachnoid space from a lumbar puncture upward through an opening in the dura. Irrigation by the shorter route through the lateral ventricles will probably not reach the convexity and will be inadequate.

Wentworth (Archives of Pediatrics, Aug., 1896) has done some valuable experimental work on healthy children and on those affected with some disease not involving the nervous system, from which he concludes:—

1. "The normal cerebro-spinal fluid contains neither cells nor fibrin, and is perfectly clear.

2. "In cases of meningitis (?) the cerebro-spinal fluid is invariably cloudy when withdrawn. The degree of cloudiness is to some extent proportionate to the amount and character of the exudation in the meninges.

3. "The cloudiness is caused by cells. The character of the cells differs with the variety of the meningitis. After withdrawal more or less fibrin is formed in the fluid. The presence of these cells and fibrin is pathognomonic of inflammation in the meninges.

4. "The cloudiness is oftentimes so slight that close observation necessary to detect it.

5. "The operation is not difficult to perform on infants and children. It is not dangerous if strict cleanliness is observed.

6. "A differential diagnosis between the various kinds of meningitis can be made by microscopic examination of the sediment, by cultures taken from the fluid and by inoculation experiments."

7. "Inoculation experiments afford the surest means of determining tubercular meningitis. It is of value to distinguish between the varieties of meningitis in order to determine if tubercular meningitis is recovered from.

8. "In the normal fluid a trace of albumin is usually present, about $\frac{1}{80}$ of one per cent, or less by quantitative analysis. In meningitis the amount of albumin is increased and has varied from $\frac{1}{30}$ to $\frac{1}{10}$ of one per cent.

9. "In one case a diagnosis of general infection with the staphylococcus pyogenes aureus was made from cultures taken from the cerebro-spinal fluid."

He has performed the operation forty-five times, and has never seen any ill effects. Regarding the operation itself, the following remarks may be quoted:—

"An antitoxin needle is preferable to an ordinary hypodermic needle; it is less liable to break and has a larger lumen, besides being somewhat longer. The one used on children over three years of age was four and one-half centimetres long, with a diameter of one and one-half millimetres. For infants under three, a needle four centimetres long, with a diameter of one millimetre, was used.

"A syringe is never necessary, but it is well to have a sterile wire to pass through the needle in situ, in case the fluid does not run well."

He is in accord with some other observers in concluding that "the degree of force with which the fluid is expelled through the needle has little diagnostic value as indicating an increased amount of fluid. I have seen the fluid spurt in a fine stream in several cases in which there were no brain lesions; and, on the other hand, it has dropped from the needle in most of the cases of meningitis and in one case of hydrocephalus. In this latter case when it was punctured a second time the fluid spurted at first."

Notwithstanding the positive assertion that in meningitis the fluid is always cloudy, he says:—

"It is possible in the beginning of a tubercular meningitis to obtain a perfectly clear fluid. This was exemplified in one case in which two subsequent punctures showed the fluid to be slightly cloudy and to contain small round cells and fibrin. At the autopsy of this case only a few miliary tubercles were found at the vortex of the brain and but inflammatory exudation, also at the vortex."

So far as we know, the finding alluded to in the following paragraph has been mentioned by no other author:—

"In a certain number of cases numerous white particles were present in the fluid when it was withdrawn. They were neither cells nor fibrin, and showed a tendency to dissolve after several hours. Solutions of corrosive sublimate and alcohol were added to normal fluid without causing the particles to appear. The skin was moistened and scraped and the scrapings examined, also with a negative result. These particles appeared in the fluid withdrawn from cases in which there was no meningitis. They should not be confounded with the cloudiness due to cells. The latter is very finely divided and gives a general haziness to the fluid. The particles may occur in cases of meningitis, but they do not interfere with the detection of the general cloudiness."

Jennings (Archives of Pediatrics, August, 1896) relates a case of supposed tubercular meningitis in a child of six years. At the time of the

puncture she was comatose, with dilated, uneven and sluggish pupils, gummy conjunctival secretion, general tremor,—the usual phenomena of the stage of effusion. A large antitoxin needle was used, and 24 c. c. of fluid were withdrawn, but the fluid flowed freely only when the needle was depressed. Too much force was accidentally used in depressing the needle, and it broke deeply in the tissues of the back. A deep incision and thorough search failed to reveal the fragment. A few hours after the puncture the temperature rose to 104.8 and the pulse to 136. Up to that time the temperature had not risen above 101 or the pulse above 100. On the following day the puncture was repeated and eight drachms of fluid withdrawn. After the second puncture there was a partial return of consciousness and temporary relief of the pressure phenomena. She died, however, two days later. No autopsy. The fluid withdrawn was clear, depositing a few flocculi of fibrin after standing. Pneumococci were present in large numbers.

In the discussion of the foregoing papers Dr. Fruitnight said that he had seen the operation done repeatedly without bad results. Dr. Blackader had resorted to the procedure two or three times, and in one case there seemed to be a very decided improvement in the symptoms for some time. Dr. Holt said that he had employed the puncture three times and had removed as much as three ounces of fluid, but had observed no change in the symptoms. He thought the operation was not likely to prove of great value in diagnosis. Dr. Wentworth remarked that the inoculation method was the only sure way to control the diagnosis and to learn positively whether tubercular meningitis was ever recovered from. So far, in cases which have recovered, the diagnosis has depended upon cover glass preparations, where a mistake in diagnosis was possible.

Babcock (State Hospital Bulletin, N. Y., July, 1896) reports on nineteen cases in asylum practice in which puncture was done. The operation was performed in twelve cases of general paralysis, in two cases of simple melancholia with pressure symptoms (intense headache, stupor, photophobia), and one case each of locomotor ataxia, stuporous melancholia, organic dementia and status epilepticus.

The author ordinarily used only local anæsthesia (cocaine injections), and agrees with others that the operation is not very difficult, nor has he seen unpleasant consequences, except intense transitory headache. Queerly enough, he seems to think that the needle is to be inserted alongside of the cord, whereas, as is well known, the cord is above the site of the puncture,—even if this be made, as was sometimes done by Babcock, between the first and second lumbar vertebra. This is, however, unnecessarily close to the cord, and we would counsel a lower site. The therapeutic results of the operation cannot be considered very good. Some cases were entirely unaffected by it. Some showed a slight improvement for a few hours, and in only two (one of general paralysis and one of subacute mania with locomotor ataxia) was there decided improvement lasting for several weeks (to the time of the report). In the second of these it is a question how much the operation had to do with the improvement, as this did not begin until a week after the puncture, ample time for reaccumulation of the amount of fluid (95 c. c.) removed. We would conclude from the report that lumbar puncture in the insane possibly constitutes a legitimate field for experiment, but that at present it promises to add very little to the therapy of psychiatry. PATRICK (Chicago).

OPHTHALMOPLÉGIC MIGRAINE (PERIODICAL OCULOMOTOR PARALYSIS)

Dr. d'Alchè (*Jour. de Med. et de Chir. prat.*, July 25, 1896) was able up to the present time to collect the reports of twenty-five cases in the literature bearing upon this disorder. First described in Germany, ophthalmoplegic migraine was then studied and published in France by Parinaud and Marie, afterwards by Charcot and Ballet. According to