

throats and skin. The pulses were normal or slightly accelerated in rate, but of decreased tension. One patient had abdominal cramps of very severe grade at intervals of ten or fifteen minutes, each lasting several minutes. These were relieved by morphia. One had involuntary defecation and urination. The white blood counts showed an increase varying between 11,000 and 20,000, and the polymorphonuclears ranged from 70 to 83%. Blood smears showed no abnormality with Wright's stain. Satisfactory data concerning the other cases in this vicinity could not be obtained.

With the previous fatal case in mind, these cases were all treated with vigorous prophylactic measures for the kidneys (hot packs for an hour and a half every three hours—only water till the third day). The urinary findings showed a decrease in the twenty-four hour amount during from one to three days. The majority of cases showed albumen in varying amounts, from a slight trace to a trace. The sediments in a few cases showed rare red blood corpuscles, few leucocytes, and some casts (hyaline and coarse granular). The temperature remained normal or slightly subnormal. All cases showed 96.2 to 97 on the sixth day. The pulse-rates were slightly elevated, but the quality in every case indicated stimulation for a time. On the ninth day all were discharged well and a subsequent visit to the house found them in perfect health.

As regards treatment, atropin for the Muscarin type is the specific. For the phalloides, nothing but symptomatic treatment is available. Ford endeavored to produce a specific serum from guinea-pigs, but was not able to attain sufficient potentiality to make its use practical. In the cases above cited atropin was, of course, contraindicated and its use, therefore, should not be recommended as a specific for mushroom poisoning in general. Each case must be observed symptomatically and be thus treated. Castor oil is the best cathartic, as the salines are said to facilitate absorption.

Summary. These cases strongly suggest the presence in the mushrooms of atropin or a similar substance. There is said to be pilz atropin in the *Amanita muscaria* in small amounts, but the symptoms in muscaria poisoning develop in one-half to one hour or, at most, three hours. The symptom-complex in these is more like that of phalloides than of any other group described. Several attempts were made with the aid of the patients to locate and identify the mushroom which produced the symptoms. One lot obtained and thought to include all varieties eaten, was sent to prominent mycologists in Boston, but all these specimens proved to be of edible varieties. We are not, therefore, able to draw any well founded conclusions as to the fungus responsible for poisoning in these cases.

These cases occurred on the service of Dr. William Porter, to whom I am indebted for permission to report them.

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Clinical Department.

AN INTERESTING CASE FOR DIAGNOSIS.*

By R. T. BURLEY, M.D., WORCESTER, MASS.

This boy, ten years old, was first seen by me in December, 1913. The family history is rather unimportant. He is one of four children, one brother having died of spinal meningitis. One uncle has tuberculosis of the lungs. Otherwise there is no nervous disease in the family, and no "family disease" so-called.

The boy had always been well up to seven months ago. Then it was noticed that he walked with a slight limp on the left side. This limp was more marked on slow motion and was not noticed much when he walked rapidly or when he ran, after he got started. The father had the shoes changed two or three times, thinking they were the cause of the trouble. At that time, the inner hamstring muscle was tense and the leg was adducted.

Finally, early in December, the father consulted a physician about it, and the physician sent the case to an orthopedic surgeon, who examined the boy and finding nothing the matter with the hip, referred the case to me. At that time, there was marked spasm of all the muscles of the left thigh, especially around the upper part. The leg was adducted. There was no evidence of spinal involvement, no change in reflexes, no trouble with the sensory nerves anywhere evidently.

I advised an x-ray of the hip, thinking that it was rather difficult to rule out hip trouble. The first x-ray was not satisfactory, and I advised having another x-ray; but instead, the father took the case to Boston, to one of the leading orthopedic men here. This gentleman examined the boy, and, according to the father's story, felt that he had found the trouble in the patient's ankle. He had an x-ray taken of the ankle, and demonstrated to the father that the trouble was there, telling him that the x-ray confirmed his suspicions. He strapped the ankle, and had the child wear the adhesive strap on the ankle for a month, directing that certain exercises be given.

On the next visit, the exercises were changed somewhat. The boy was under the care of the orthopedic surgeon for three months. At the end of that time, he was satisfied with the position of the foot, but the spasm of the muscles had been increasing during all that time. After the first month, the boy had been on crutches, and has been ever since when able to get about, and the spasm of the muscles has continued progressively. There is now

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marked contracture of the left leg in flexion and adduction.

Finally, this orthopedic surgeon advised consulting a neurologist and the father returned to me with the boy. I found the condition had progressed markedly since I had seen him, three months before. I referred him to the hospital for x-ray to see what change there had been. There was so much spasm through the lower back and left side that an x-ray could not be taken satisfactory without ether. The muscles did not fully relax under ether. The inner hamstring especially was tense even then, but the leg could be moved with much less resistance than without ether. X-rays of the pelvis, hip, and back showed nothing abnormal in the bony structure.

In consultation with Dr. Emerson it was decided, partly for psychic effect, to see if we could straighten out that leg, and we put it in a plaster cast which extended from the ankle to the armpit. The cast was fairly comfortable considering the contracture, but it did not make any difference in the boy's general condition; the contracture still remained. We decided it was not successful, and after a few days it was removed.

The present physical condition is as follows: Sitting posture cramped, left leg partly crossed over right, causing a compensatory right bowing of lumbar vertebrae. Left thigh muscles in tonic spasm. This spasm involves also the lower abdominal muscles and slightly the right thigh muscles. There is no anesthesia or paraesthesia. The eyes react normally and the fundus is clear. The superficial and deep reflexes are within normal limits, the knee-jerk on the left side being somewhat impaired by contracture. The plantar reflex is at times not well marked. There is no ankle clonus, Babinski, Gordon or Oppenheim. No disturbance of sphincters. No tenderness or pain, except in overcoming the contracture. The mechanical irritability is increased over the affected parts but the response to faradic and galvanic stimulation is within normal limits. Blood examination reveals nothing abnormal. Von Pirquet negative. Wassermann negative in the blood serum by one observer, positive by another. Both obtained a negative test of the spinal fluid, however, and the globulin test was also negative. The spinal fluid cell count was not increased.

That practically covers the case. When I first saw him I thought it was impossible to rule out either tuberculosis of the hip or of the spine, but the x-rays do that. Then I considered hysteria as being the cause of the contracture, but there are a number of things about it that tend to rule that out. There are no hysterical stigmata, no anaesthesiae, no contraction in field of vision. The boy is not apparently of an hysterical make-up. He is not suggestible; and, further, if he had been suggestible, I think the orthopedic surgeon's definite decision that the boy's foot was the cause of the trouble, with so much confidence, would perhaps have effected a cure.

Another disease I have had to consider is myatonia, congenita or acquisita, but the disease does not seem to be typical at all. His spasm is practically constant, and the progress has been rather rapid. Up to the time he was ten years old, he did not have any of it. It began a little about six months ago.

I should be glad of any advice from you gentlemen as to the possibility of that diagnosis, or some other better one. I will now bring the boy in, and we will have a look at him.

DISCUSSION.

Dr. H. C. Baldwin thought pain was not necessary for diagnosis of tumor of the cord, and referred to a case he reported some nine years ago.

Dr. W. E. Paul spoke of the lack of evidence of organic disease of the spinal cord, and thought it more probably involved the peripheral nerves.

Dr. E. E. Southard thought it more suggestive of that than of anything else.

Medical Progress.

PROGRESS IN GYNECOLOGY.

BY STEPHEN RUSHMORE, M.D., BOSTON.

OVULATION, CORPUS LUTEUM AND MENSTRUATION.

The etiological relationship of the ovary to menstruation has now been generally recognized for a considerable period of time. The view that the corpus luteum, by its internal secretion, in some way produces the changes in the uterus which precede and perhaps accompany menstruation, is more recent, and has not received universal acceptance. The view of Fraenkel is that ovulation and menstruation, while not simultaneous, have a close temporal relationship. The view expressed by Leopold is that the two processes are simultaneous. Recently Ricker and Dahlmann have denied that there is any connection between these two functions.

On account of the conflicting opinions, Ruge¹ undertook a study of uteri and ovaries, material obtained from operations by total extirpation for various causes. The tissues were subjected to careful examination and the histories were studied to determine as accurately as possible the dates of onset and cessation of menstruation. The series (one hundred and six cases) is large enough to give a basis for trustworthy conclusions.

Ruge's studies of the endometrium confirm in a general way the findings of Hirschman and Adler, dividing the menstrual cycle anatomically into four stages. Following the changes in the follicle which terminate in rupture or ovulation, four periods in the cycle of development of the corpus luteum are to be made out. In the first, the proliferation stage, there is increase in the lutein cells which are derived in part from the membrana granulosa (epithelium) and in part from the theca interna (connective tissue). Then follows the stage of vasculariza-