originally on the nervous system. I conclude from observations made not only in the years 1888-1889, but from the cases that I treated in the years from 1860 to 1863, that the real cause of this disease is malaria. The symptoms of malarial blood poison are as protean in their manifestations as the shades of the chamelion.

The three cases in the family of Mr. H. covered the extremes of these manifestations. The prodromata in the father's case was clearly indicative of nerve lesion, the same as usually produced by malaria.

The shifting and shooting pains in the body, the headache, pain in back and limbs, all point in that direction.

The epistaxis was evidently dependent on malarial toxæmia.

A bleeding nose in the early history of a fever is strong evidence of malarial origin. Herpes labialis is also often observed in the milder types of malarial trouble. If we take the three common types of malarial fever, intermittent, remittent, and pernicious, we have extremes wide enough to cover all the phenomena and peculiarities of the so-called cerebro-spinal meningitis. The young man, Mr. C., had just one week previous to his fatal attack, the most intense pains in his legs and knee-joints; the red eruptions on the knuckles of his hands. This all subsided within twenty-four hours and he was at his usual occupation for the succeeding week. I observed this periodic return of the symptoms in several cases. While the ordinary types of malaria are developed in the autumn and spring, and seldom in the winter, it is true that the pernicious cases are as apt to be developed in February and March as at any other season. I do not think the fact that cerebro-spinal meningitis has been observed in mid winter, is sufficient argument against its malarial origin. If I have succeeded in showing some facts, proving that inflammation is not, and should not, be the overshadowing symptom, and that it must not control the treatment, and further, if the cause is found in malaria, then the line of treatment is plain.

The practitioner who has confronted this dreaded disease, and who has looked through the pages of the best authorities, must feel that he goes into the battle with an uncertain guide and a trembling hand. Uncertainty as to cause, and an evident want of confidence in the remedies recommended, mark the written history of cerebro-spinal meningitis.

A disease so bold and rapid, and fatal in its results, must be met by no faltering hand. It is no new thought that malaria is the cause, but I insist that the fact has not been fully recognized, and that the treatment, both prophylactic and curative, has not been thoroughly tested because of this want of recognition.

No disease of malarial origin can be satis-

factorily treated upon general principles. It is a specific disease and requires specific treatment. Quinine is the antidote, and without, no success can be expected. There are many adjuvants which must be used; calomel in large and repeated doses, venesection and veratrum, are among the best arterial and nerve sedatives, and at the same time they favor the absorption of other medicines, and the elimination of blood-poison.

The bromides, chloral, and morphia are to be used freely. The quinine should be used hypodermically in not less than 5-grain doses, and at not longer intervals than one hour; the bisulphate is the best for this purpose and can readily be dissolved in warm water. There are a few cases which cannot be controlled in every epidemic of any disease, but they all have their prodroma, and if the medicines are given in time many cases can be prevented from reaching the grave type. This is eminently true of cerebro-spinal meningitis. It is as a prophylactic that quinine is to be the greatest boon. When it is threatening to be epidemic the physician should warn his patients that the first shooting pain and the earliest uneasy aching, the slightest headache or slightest arthralgia, must be met with quinine. It is here that the inflammatory theory has done its greatest harm by withholding the hand in the fear of exciting it.

Let it be remembered that malaria is killing the patient, and not inflammation. If the patient survives the deadly touch of the blood-poison then there will be plenty of time to treat the inflammation, which is one of the sequelæ of the perverted blood-vessels caused by an influence exerted through the nervous system.

REPORT OF SIX CASES OF ABDOMINAL SECTION.

Read in the Section of Obstetrics and Diseases of Women at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY A. C. WILSON, M.D.,
OF YOUNGSTOWN, OHIO.

Case 1.—Mrs. J. W., aged 28 years, married ten years, has had two children, elder 8 years, younger 6 years. She has had two miscarriages, one four years and the other two years ago. Her labors were always long and tedious, and her recoveries slow. Menstruated first at the age of 15 years. Always suffered great pain at these times. Since the birth of the last child, she has been a constant sufferer from severe pelvic pain, and a dull aching in the lower part of the back, rendering her able to walk but a short distance. She was treated one year for the pains with tonics and nervines, and also locally by painting the vault of the vagina with tr. iodine, and with glycerine tampons. She received no relief by

this treatment. Her suffering was so constant and extreme that the removal of the uterine appendages was proposed and gladly consented to. On October 30, 1889, assisted by Dr. H. A. Kelly, of Baltimore, Md., the tubes and ovaries were both removed. She made a rapid recovery without an unfavorable symptom. There has been no pelvic pain since the operation. She got up the fifteenth day, and in six weeks began doing her own work. She is now able to walk without discomfort, and is well in every respect.

Case 2.—Mrs. F., aged 49 years, married and has had eleven children, all still-born, except two who died soon after birth. Two years before I saw her, she received an injury in the lower part of the abdomen which caused an inflammation, and confined her to bed for several weeks. Since then she suffered constant pain in that region, and a small tumor could be indistinctly made out at that point in the abdominal cavity. She was treated for her trouble by her family physician for a long time with no benefit. An exploratory operation was performed Nov. 20, 1889, to determine the character of her trouble. The small tumor proved to be a mass of adhesions matting together the omentum and bowels. The less firm adhesions were broken up by the fingers, freeing the bowels as much as possible from constrictions. The abdominal cavity was well washed out with hot distilled water, and carefully sponged out, and the abdominal wound closed. The patient had no previous preparation, and had partaken of a hearty meal but a couple of hours before the operation. The surroundings of the patient were bad, the rooms small and filthy, but she made a good recovery from the operation. Although she still suffers some inconvenience, yet she has been much improved.

Case 3.—Mrs. J. S., aged 28 years, married seven years. Has one child 6 years of age. Has had four miscarriages, the last in February, 1890. She first menstruated at the age of 14. Since the birth of her child she has been a constant sufferer. She was first seen in March, 1890, menstruation was then occurring every two weeks. On examination I found the uterus slightly retroverted, the left ovary enlarged, prolapsed, and very painful to the touch. At that time she was weak and anæmic. Tonics including iron were prescribed. Locally she was treated with iodine and glycerine tampons. Her general constitution became better, but the ovary showed no improvement. Its removal was advised, and consented to, with the understanding that the right one should be left, unless it be found so far diseased as to be entirely useless. The operation was performed May 26, 1890. The adhesions binding the left ovary were broken up and it was removed with the tube. It was about the size of a hen's egg, containing an ab-

cess filling almost the whole ovary with pus. The right ovary, being healthy, was left. The abdomen was closed and she made a rapid recovery. Her menses came on the latter part of June. In July they failed to appear. In August she consulted me about her condition. She had morning sickness; after questioning her closely, I concluded she must be pregnant and advised her to remain quietly at home. After a couple of weeks she became quite comfortable. About the 12th of September, the next day after a ride of several miles over a rough road, in a not easy riding vehicle, I was called to see her. She had severe pain and profuse hæmorrhage; in short I found her suffering from a miscarriage. The membranes came away easily, and in two week's time she was able to be up again. After a couple of months, she began to suffer a great deal of pain in the right ovary, which as yet I have not been able to relieve, and I very much fear that a second operation for the removal of the right ovary will be necessary.

Case 4.—Mrs. E. W. D., aged 30 years, has two children, the elder 7 years, the younger 2½ years. One miscarriage five years ago. Labors have always been protracted and severe, and recoveries slow. She first menstruated at the age of 16, which has always been painful. Has suffered more pain since the miscarriage five years ago. Since the birth of her last child she has menstruated every two or three weeks, constant pain in back and pelvis. Has headache nearly all the time and is very nervous. First examined her in May, 1889. Uterus slightly retroflexed, and both ovaries exceedingly painful to the touch. She was also very weak and anæmic. She was treated with tonics, and also with appropriate local applications for a year. Her general condition was improved, but there was no relief to the pain. In August, 1890, she became very much worse with the pain and was confined to her bed. The removal of the uterine appendages was advised. Consequently, September 18, the operation was performed. Both tubes and ovaries were adhered by bands of adhesions to the surrounding parts, but were easily removed. The ovaries were enlarged but contained no abscesses.

The tubes presented a granular appearance, and exuded a thin bloody pus. The patient made a good recovery, and began doing her own work and caring for a family of five members, the following January, and still continues to be well.

Case 5.—Mrs. M., aged 39 years. Has had four children, the youngest 4 years of age. The last labor very long and difficult, and was followed by puerperal fever, from which she made a slow recovery, which was never complete. Since then she has had constant pelvic pain, and also pain in the lower part of the back, and

menses appearing every two or three weeks. She never was treated for her trouble until the summer of 1890, when she became unable to work, and was confined to her bed. She received appropriate treatment, both local and constitutional, from her physician during the summer and early fall of 1890. She was first seen by me in August. Both ovaries were very painful to the touch, the left one prolapsed and lying behind the uterus. The removal of the tubes and ovaries was advised. October 10, the operation was performed. The ovaries were adherent, but the adhesions were easily separated and both tubes and ovaries were removed. The ovaries were small and sclerotic, the tubes enlarged and exuded a thick yellowish serum. The patient made a good recovery. After three weeks she went home and went to work, caring for her family, which very much retarded her complete recovery. She has continued to improve, until now she is comparatively well.

Case 6.—Miss J. R., aged 20 years. In May, 1889, she had a large cyst of right ovary removed by Dr. A. Kelly. The left ovary at that time was in perfectly normal condition and was not removed. She recovered very nicely from this operation. She was well until July, 1890, when she had an attack of dysentery; after this she complained of severe pain in the lower part of the abdomen and pelvis. She was treated with tonics for some time with little benefit. In August an examination of the pelvis and abdomen was made. Bands of adhesions could be felt in the right ovarian region. These extended from the womb and right broad ligament, and seemed to be connected with the bowels. She complained of much pain in that region, and especially when the bowels were about to move. The uterus was slightly movable, seeming to be fixed by bands of adhesions to the line of the old cicatrix. The right ovary was enlarged, painful, and slightly movable. She grew gradually worse during the latter part of the summer. In the fall she became bed-fast. The pain in the pelvis became so intense that it became necessary to give her opiates for her relief.

On December 27th, laparotomy was performed for her relief. An incision three inches in length was made at the right and close to the old cicatrix. Some difficulty was experienced in opening the peritoneal cavity, because of the adhesions of the bowel and omentum to the old cicatrix. At the right of the uterus, there was a mass of adhesions matting the viscera in this region all together. These were broken up. The stump of the old pedicle from which the cyst was removed two years ago was found, with the ligature about it, but apparently as it was left at the former operation, a year and a half before. This was left as it was. The left ovary and tube were firmly bound down and were removed with diffi-

culty. There was a great deal of hæmorrhage, but the abdominal cavity was flushed with hot distilled water and it soon ceased. The abdominal cavity was then carefully sponged out and closed without a drainage tube. I regretted afterwards that a drainage tube was not used, as there was a great deal of pain and some distension of the abdomen, which gave me a great deal of uneasiness for fear there was more oozing of blood than the peritoneum could take care of. Nevertheless she recovered slowly, and is now nearly well. She suffers no pain and walks about with no inconvenience, and is improving rapidly.

These operations were all, except Case 5, performed at their dwellings. Case 5, was done at the Youngstown City Hospital. The rooms in which the operations were done and where the patients were subsequently cared for, were all carefully cleaned, carpets and furniture removed, all wood work carefully washed with a 1 to 1000 sublimate solution. This was done in all cases except Case 2, which had no preliminary preparations whatever. All except Case 3, previous to the operations, were given saline cathartics and the bowels thoroughly emptied. They were carefully bathed, the abdomen and genitals thoroughly washed in 1 to 1000 sublimate solution. The hands of both the operator and assistant were thoroughly scrubbed with hot water and soap, and then immersed in 1 to 1000 sublimate solution for a few minutes. Nothing but hot distilled water was used in cleansing the abdominal cavity or the wound.

Silk ligatures were used for both the pedicle and the closing of the abdominal wound. These were prepared by boiling for fifteen minutes in distilled water, and then placed in 1 to 1000 sublimate solution for two hours, and preserved in alcohol. Nothing but liquid food was given for a couple of days before the operation, and no food or drink except weak tea was given for two days after the operation. The temperature of none of these cases ever rose above 100. No stitch abscesses occurred in any of the cases.

Hypodermics of morphia were given the first three days after the operation to relieve the pain, except in Cases 1 and 2.

The results obtained in these cases have been entirely satisfactory. Before the operations they were great sufferers, unable to attend to their household duties. To day they are doing their own work at home, and with the exception of cases 2 and 3 who were greatly improved, are well and happy women.

Youngstown, O., May 1st, 1891.

DR. JAMES N. MARTIN has been appointed to the chair of Obstetrics and Diseases of Women in the University of Michigan, which he has filled since the death of Dr. Dunster.