Bull. Soc. Path. Exot.
[Bulletin of the Exotic Pathology Society]
No. 2 (1964).

RESULTS OF BROAD–SPECTRUM ANTIBIOTIC TREATMENT IN 30 CHRONIC CASES OF RICKETTSIAL AND NEO–RICKETTSIAL MULTIPLE SCLEROSIS

(Lecture followed by the presentation of films)

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(*) Meeting of April 8, 1964.

We previously emphasized the importance of early diagnosis of rickettsial and neo–rickettsial multiple sclerosis, because of the high degree of sensitivity of its pathogenic agents to broad–spectrum antibiotics. In acute cases, this type of antibiotic treatment enables a rapid *restitutio ad integrum* ["return to wholeness"].

Broad–spectrum antibiotic treatment loses none of its effectiveness in chronic cases; however, its effectiveness very often is hindered by the extensive changes in the field caused by the intra–tissular evolution of the pathogenic agent. In point of fact, these cases represent instances of chronic vasculitis that usually affects the organism as a whole, and primarily the glands with a rich and complex vascularization. The organism's metabolism, which is profoundly altered by the deficiencies caused by the anoxia, makes it very difficult for the antibiotics to be assimilated in their entirety, to be distributed through the tissue, and to penetrate the cells. Therefore, *these deficiencies must be remedied so that the effects of the antibiotics can be ensured*.

In order for the antibiotic treatment to be implemented effectively, the practitioner must be familiar with the rickettsioses and their vascular physiopathology. This familiarity is essential to an understanding and proper interpretation of the reactions of the subjects who undergo this type of treatment.

The number of antibiotic treatments cannot be determined according to a strict rule, because it will vary from one patient to another, in accordance with the evolution of each patient's condition.

Nevertheless, the chronic nature of the disease does not always present an obstacle to recovery. There have been cases of apparently severe conditions, of long duration, in which antibiotic treatment has yielded truly spectacular results.

Provided that definitive lesions are not present, the various fields can be recovered within a period of time that cannot be predicted and that varies from case to case, as demonstrated by the following observations, which we have limited to 30 cases.

Case 1. – Miss Antoinette G., 44 years of age, employed as a dairywoman and milker of goats and sheep, in 1940 contracted a febrile condition with violent abdominal pains accompanied by hyperesthesia and paresthesia. This condition was followed by spastic paraplegia, with shooting pains in the lower limbs and bladder incontinence. The patient was able to walk only with difficulty, with the use of a cane and support. The diagnosis of multiple sclerosis was made by a neurologist in Saint Etienne.

In April 1959 the micro–agglutination reaction was strongly positive for *R. burnetti* (+++, 1:20 and 1:40).

Blood from this patient was then injected into a very young male mouse (V–22), which was sacrificed three months after the inoculation. This test allowed us to conclude that a minor condition had been transmitted, inasmuch as the animal results were likewise positive for

R. burnetti (+, 1:10 and 1:20). This minor condition had arrested the development of this mouse in comparison with the development of the corresponding control animal [7].

With regard to this serological result in terms of *R. burnetti*, we should emphasize the presence of the abdominal reactions at the start of the condition, because this particular rickettsia has a very pronounced affinity for the vessels of the mesenterium, of the appendix, and of the intestinal loops. This rickettsia often causes numerous abdominal adhesions, and appendicular antecedents are frequent during attacks by *R. burnetti*.

After a brief reactivation phase, the administration of antibiotics and alginated baths led to gradual and constant improvement, with the regression of the various difficulties.

A few months later, Miss G. wrote to us, saying how happy she was to be able to take long walks in the countryside, to be able to garden, prune the shrubbery, rake leaves, and in general play an active role in the maintenance of a large country house whose care had been entrusted to her. A course of thalassotherapy consolidated and maintained these results.

Case 2. – Sister M.J.C., a Franciscan missionary, 40 years of age, had multiple sclerosis whose initial symptoms appeared in December 1948, during a visit to Ireland. These symptoms consisted of paresthesia, dysthesias, and visual difficulties, which were followed by equilibrium difficulties that interfered with walking, and continuous dizziness.

The diagnosis was made in London in July 1949, at the Whipps Gross *[sic; the proper word is "Cross" – Tr.]* Hospital.

The patient then returned to France. During the period from 1949 to 1959, treatment with vitamins, iodine, x–rays, and even curettage of the carotid sinuses (which was recommended by Dr Thevenard, and performed at the Pitie Hospital) did not halt the typical evolution of the condition, which was marked by increasingly aggravated outbreaks separated by periods of relative remission.

In June 1959, Sister M.J.C. was experiencing one of these good periods, but nevertheless displayed all of the clinical signs of classic spastic paraplegia, with a cerebellar syndrome accompanied by sensory, vasomotor, and sphincteral difficulties. She was able to walk short distances indoors, with the aid of a cane or other support.

The serodiagnosis was strongly positive for *R. burnetti* (++, 1:40).

Broad–spectrum antibiotics and alginated baths produced a very clear improvement. Walking became easy without a cane or other assistance, and the other difficulties regressed. Only prolonged walks and long periods of standing were still difficult.

The effects of cold and grippal conditions, to which the patient had always been very sensitive, stopped being harmful when the specific treatment was associated with a prolonged course of thalassotherapy.

At the last examination, Sister M.J.C. no longer displayed any signs indicative of multiple sclerosis. She was able to address the obligations of her order, both internally and in the city or abroad. She was recently entrusted with the management of a religious establishment in the East, while awaiting a possible assignment to a mission in the Far East.

Case 3. – Mrs. Renee P., 60 years of age, experienced in 1959 a reduction in visual acuity, paresthesia, dysthesias, and intentional trembling.

A neurological examination performed in June 1959 revealed the presence of spastic paraplegia, with the disappearance of abdominal cutaneous reflexes. The diagnosis of multiple sclerosis was made.

The serological reaction was positive for *R. mooseri*. Broad–spectrum antibiotic treatment led, within six months, to the disappearance of the various pathological signs, and Mrs. P. resumed all of her earlier activities relating to her family and social obligations.

Case 4. – Miss Jeanne M., 39 years of age, was a veterinary assistant. The onset of multiple sclerosis occurred in 1949, with the appearance of retinal hemorrhages which reoccurred from time to time and to which the patient became accustomed.

Sudden manifestations occurred early in August 1958, in the form of violent abdominal colic, sometimes on the right side and sometimes on the left, with swelling of the thighs and of the lower legs, which may walking difficult. By the end of the month, walking was no longer possible without assistance. Miss M. was then hospitalized, and multiple sclerosis was diagnosed.

In December 1959, classical spasmodic paraplegia occurred, with sensory difficulties, ocular difficulties, and sphincteral difficulties (i.e., retention). The serological reaction was strongly positive for *R. burnetti*. (In this case we also encountered a positive reaction for *R. burnetti* with violent abdominal manifestations, as mentioned above.)

Broad–spectrum antibiotic treatment and alginated baths, which were implemented immediately, enabled a gradual return to normal activity, with the resumption of bicycling and the option of running, jumping rope, and taking frequent walks.

Case 5. – Mrs. Raymonde L., 34 years of age, displayed the first symptoms of her disease in 1950. These symptoms consisted of ocular difficulties associated with paresthesia, dysthesias, and intermittent difficulties with pronunciation.

One night in 1958, she was suddenly awakened by a sense of violent anxiety and imminent death. These anxiety attacks subsequently appeared with greater frequency, with a profound

effect on her psyche. Meanwhile sensory and motor difficulties appeared, primarily on the left side but with the participation of the right arm. A neurologist who was consulted in 1959 made the diagnosis of multiple sclerosis.

The serodiagnosis performed in June 1960 was positive for X–14 neo–rickettsia (at a ratio of 1:20).

Treatment with broad–spectrum antibiotics and alginated baths was implemented immediately. During the month of August, the abdominal cutaneous reflexes suddenly reappeared on the right side, and were followed the next month on the left side. Within 4 months recovery was complete, such that Mrs. L. was able to resume attending to her family obligations (as the mother of three children) and her participation in sports such as skiing.

Case 6. – Mr. Jean–Paul P. was an industrial designer. The first signs of multiple sclerosis appeared, and the diagnosis was made, in May 1960. The diagnosis was confirmed in July 1961.

The patient was required to abandon all professional activities, due to spastic paraplegia with intentional trembling and ocular difficulties. The serodiagnosis was positive for *R. burnetti*.

Within less than a year, specific treatment and alginated baths allowed Mr. P. to resume his specialized work as an industrial designer for a major company, where he was accepted only after a professional test and two medical appointments, one of which was dedicated specifically to the central nervous system. The previous multiple sclerosis (which had not been mentioned, for fear of automatic rejection) went completely unnoticed, with the absence of any clinical signs that might suggest its presence.

Case 7. – Mrs. Marthe B., 43 years of age, was a schoolteacher. The onset of multiple sclerosis was manifested in 1957 in the form of retrobulbar neuritis of the right eye. The diagnosis was made in March 1957, in the Neurology Department of the Cite Hospitaliere of Lille. The

symptoms included paresthesias of the lower limbs, loss of balance, sphincteral difficulties, spasmodic paraplegia, and vascular and sensory difficulties.

Despite a negative serodiagnosis in May 1962 (which would not turn out positive until March 1963, for *R. prowazeki*, after 10 months of treatment), the immediate administration of broad–spectrum antibiotics and alginated baths led to constant improvement, with a gradual and total disappearance of the various difficulties and a return to normal condition. The continuation of medical monitoring and of treatment was necessitated only by the absence of abdominal cutaneous [responses].

Case 8. – Mr. Michel V., a Belgian citizen, 44 years of age, experienced the onset of multiple sclerosis in 1952, with continual progression of the condition, marked by highly spastic paraplegia with intentional trembling and pronounced cerebellar difficulties, accompanied by losses of balance and the ability to walk without assistance or a cane.

On December 7, 1959, the serodiagnosis was positive for *R. conori*.

Antibiotic treatment, alginated baths, and thalassotherapy produced a notable improvement, which was hindered by the abuse of tobacco, which had to be formally prohibited. Gradually, over the course of several seasonal recurrences, Mr. V. achieved a total recovery from the clinical signs, and was able to resume bicycling and walking without assistance and without a cane.

Case 9(*). – Mr. Paul L., a Belgian electrician, 28 years of age, experienced the onset of multiple sclerosis in December 1957, in the form of bilateral optical neuritis that was more pronounced on the right side. In December 1958, paresis appeared on the left side. This condition disappeared within a few days, but reappeared several months later on the right side, accompanied by diplopia and sphincteral difficulties. A neurologist in Mons, who was consulted in February 1959, made the diagnosis of multiple sclerosis. The disease rapidly

became worse, in the form of severe quadriplegia with major cerebellar, vestibular, ocular, sensory, and sphincteral difficulties, accompanied by loss of speech, mental changes, and lethargy punctuated by moments of excitation (manifested through inarticulate shouts and uncontrollable laughter).

Treatment with cortrophin produced a mild improvement, but the patient remained powerless.

In 1960 the serodiagnosis was positive for *R. prowazeki* and *R. mooseri*.

The administration of broad–spectrum antibiotics and alginated baths was followed by a spectacular response. Improvement was considerable after the very first treatment, and continued along with the treatment. Within 8 months the difficulties had regressed, and the patient was able to walk easily and resume his work as an electrician. He had no hesitation in performing repair work at the top of high–voltage pylons, or in installing television antennas on roofs, as you will see in one of the films that will be shown for you. The patient wrote to us, describing his transformation in the following words: "The oculist who had examined me and my own doctor scarcely recognized me. They thought it was a miracle."

One interesting detail remains to be noted. Mr. L. had a magnificent German shepherd dog, which he had already had before the onset of his disease. The serodiagnosis of this dog was found to be positive for the same epidemic and murine viruses, thereby constituting a source of contamination within the patient's home.

(*) This case was described earlier, at the Ostend Research Conference on May 28, 1962.

Case 10. – Mrs. W., a Belgian citizen, 60 years of age, was the mother of a physician. Her severe multiple sclerosis went back more than 30 years. For 27 years, Mrs. W. had been confined to bed, bedridden, incontinent, and hopeless.

The serodiagnosis performed in July 1960 was positive for *R. mooseri* and *R. prowazeki*.

Administration of broad–spectrum antibiotics and alginated baths was followed, after a short period of clinical reactivation, by a recovery that was as unexpected as it was extraordinary. Within a few months all of the difficulties had regressed, the patient got out of bed, and her children (who had no memory of ever having seen her standing up) were astonished to see how tall she was. She started walking again and took over the management of her household, performing all of the necessary duties, including (for example) going to the basement to fetch a ladder when she needed one.

The following year, her husband underwent a major surgical operation that left him bedridden with an artificial anus. Mrs. W. declined all assistance (both familial and external) with the care and dressings that the patient required. She did this in addition to all of her normal occupations, which she was required to handle alone, in their entirety, and which she is still handling.

Mrs. W. is a remarkable example of the possibilities of broad–spectrum antibiotic treatment in cases of long–standing multiple sclerosis of rickettsial origin.

Case 11. – Mr. Albert Van S., a Belgian citizen, 31 years of age, experienced the onset of multiple sclerosis in 1951, in the form of left retrobulbar neuritis which regressed within two months. In 1956, weakness in the right leg appeared, with a tendency toward tremulousness. The disease progressed slowly but constantly, in the form of a spastic syndrome affecting the lower legs, the arms, and the left hand, in which sensitivity was lost. Walking became difficult and then impossible without assistance.

In May 1961 the serodiagnosis was positive for T–13. Administration of antibiotic treatment, in association with alginated baths followed by thalassotherapy, led to a transformation of the patient's general state of health, with the disappearance of all pathological signs. Within a year, the patient was able to return to his job, which requires four bicycle trips per day, which he was able to complete without becoming fatigued.

Case 12(*). – Mr. John T., a British citizen, 16 years of age, was the son of a police officer in Manchester. His multiple sclerosis began in October 1960, in the form of tingling in his feet, legs, and hands. These symptoms were followed very rapidly by diplopia, reduced visual acuity, loss of balance, and unsteady gait, which allowed the diagnosis of multiple sclerosis to be made. By August 1961 this young patient could stand upright only with assistance and with the use of two canes.

The serodiagnosis was positive for *R. mooseri*.

The response, after the first treatment with broad–spectrum antibiotics, was striking. The patient's balance returned, and walking without the use of a cane was easy. The patient walked all around clinic at a brisk pace, and was once again able to use stairways. Handwriting, which the lack of coordination had rendered impossible, return to normal. The continuation of the [broad–spectrum antibiotic] treatment and the thalassotherapy completed his recuperation.

A serological recurrence, which was treated immediately, did not cause any clinical changes. Blind walking was flawless. John amused himself by running while skipping rope. He returned to Manchester, where he astonished the doctor who had made the diagnosis, as well as everyone else who had seen him when he left for Belgium.

(*) This case was described earlier, at the Ostend Research Conference on May 28, 1962.

Case 13. – Mrs. Tina S., 40 years of age, was a British citizen and a resident of Manchester. The first signs of multiple sclerosis appeared in 1956, in the form of diplopia which lasted for four months.

Dysthesias appeared early in 1960, followed by paresis of the right leg and of both hands. The physicians who were consulted made the diagnosis of multiple sclerosis.

In October 1961 Mrs. S. displayed spasmodic paraplegia, primarily on the right side, accompanied by intentional trembling of the right hand.

The serodiagnosis was positive for *R. burnetti* (++).

Broad–spectrum antibiotics, alginated baths, and thalassotherapy produced a noticeable improvement, which gradually increased. Within a few months, all of the pathological signs had disappeared, and Mrs. S. returned to Manchester fully recovered. She is very worldly and extremely fond of the twist, going out dancing it several evenings a week.

Case 14. – Mr. Maurice Q., a Belgian citizen, 46 years of age, experienced the onset of multiple sclerosis in 1955, in the form of transient retrobulbar neuritis. In 1956 the patient became bedridden. As of November 1961, [he had been] totally quadriplegic for three years.

The serodiagnosis was positive for T–13.

Antibiotic treatment and alginated baths were followed, within a few months, by a spectacular improvement.

In May 1962 Mr. Q. started walking normally again. No longer requiring any assistance for anything, he resumed his activities and astonished the local doctor, who had discouraged his hopes of achieving any worthwhile results.

Case 15. – Mrs. Berthe D., a Belgian citizen, 44 years of age, displayed the first symptoms of multiple sclerosis in May 1959. The diagnosis of multiple sclerosis, which was made on June 12, 1959 by the treating physician, was formally rejected by the neurologists who were consulted. However, in February 1962, these neurologists acknowledged the diagnosis as accurate, in view of the presence of classic spasmodic paraplegia with sensory difficulties.

The serodiagnosis was positive for *R. burnetti*.

Treatment with broad–spectrum antibiotics and alginated baths was begun on March 7, 1962. The first and second treatments led to a noticeable reactivation. Recovery, which started with the third treatment, was gradual, constant, and complete.

In May 1962, Mrs. D. was walking again without a crutch. During the following month, she started bicycling again.

Since then, she has been traveling alone, engaging in her household activities, while regularly checking her serological reaction. In July 1963 this reaction became possible once again for *R. burnetti*.

The new physician who was consulted regarding the resumption of the specific treatment sent her back after an examination, assuring her that she did not have, and never could have had, multiple sclerosis. The assurance of the neurologists who had previously examined Mrs. D. was necessary before this new physician could be persuaded that Mrs. D. actually had had multiple sclerosis.

Case 16. – Mrs. L., a Belgian citizen, 40 years of age, had multiple sclerosis that had been characterized in May 1962 by very spastic quadriplegia, a significant reduction in visual acuity, dysarthria to the point that speech was incomprehensible, etc. Each therapeutic attempt that was undertaken met with failure.

It was impossible to draw any blood in order to check the serodiagnosis. However, in view of the clinical setting, [treatment was administered in the form of] broad–spectrum antibiotics in association with balneotherapy. The reversal of the patient's condition was spectacular. Within a few days, her sight returned and the dysarthria disappeared. The patient spontaneously got out of bed, found her balance, and regained control of her limbs.

After four weeks of treatment, Mrs. L. came alone to the consultation, easily negotiating the steps at the entrance. She has since resumed the customary family and social activities of a normal life.

Case 17. – Miss Le G., 28 years of age, developed multiple sclerosis whose onset can be traced to August 1958, during which month the patient developed a febrile condition while traveling in Great Britain. This condition was accompanied by a sensation of pins and needles, and was rapidly followed by difficulty walking, diplopia, bladder incontinence, and sensory difficulties.

This condition became worse, until, in March 1961, the patient displayed spastic paraparesis of the lower limbs with mild involvement of the upper limbs (primarily on the right side), which was accompanied by significant difficulty walking, loss of balance, frequent falls, dizziness, memory loss, blurred vision, mild dysarthria, and persistent constipation.

The serodiagnosis performed in February 1961 was positive for *R. prowazeki*.

After eight courses of antibiotic treatment, all that remainder was a mild deficit of the right upper limb, which was remedied by a course of thalassotherapy. The patient spontaneously wrote to us saying that with her regained strength, she had returned to work for 6 hours a day, that she was leading a normal life, and that although she still became short of breath if she ran or climbed stairs above the fourth floor, her walk was completely normal and she had not fallen in two years.

Case 18. – Mr. W., 35 years of age, was a lieutenant in the Special Police Force. His multiple sclerosis, which began in 1956, was characterized by a sensation of pins and needles, and by a tingling sensation in his right hand.

In January 1957 the onset of contractions of the right hand and forearm was observed, with swelling which regressed but then reappeared in successive outbreaks between June 1957 and

January 1961. These difficulties were accompanied by nystagmus of the left eye, which was followed by a total loss of vision in the left eye (which persisted for a period of two months), and by weakness in the lower limbs, with contraction and a loss of sensation in the right leg, which in turn was followed by a loss of balance. The patient also experienced headaches accompanied by a sensation of an electrical discharge along the spinal column, and insomnia.

The symptoms became more pronounced in February 1961, particularly in the lower limbs, despite scrupulously administered treatment with iodaseptin, oxyferriscorbone, vitamins, and corticoids.

In March that is 61, Mr. W. displayed a bilateral spastic paraparesis syndrome (predominantly on the right side), with involvement of the right hand. After reactivation, his serodiagnosis was positive for *R. prowazeki*.

The administration of antibiotics was followed by a significant improvement. In September 1961, a general recovery allowed this police lieutenant to leave on a mission for several months. After his return, in May 1962 and in March 1963, mild difficulties reappeared in the right hand and leg. These difficulties were resolved through the renewed administration of antibiotics, with a return to the previous level of recovery. At present, the patient's general state of health is excellent and his recovery is almost complete, because all the remains is a mild swelling of the feet.

This very active 35–year–old man, who was accustomed to making (and was indeed required to make) major physical efforts, was about to be declared unfit for service when the specific treatment was undertaken in 1961. All of his supervisors wanted to discharge him at the start. However, since receiving treatment, he has not interrupted his duties, which he is performing in a completely normal way, such that there is no longer any question at all of his being declared unfit for service.

Case 19. – Miss G., 25 years of age, experienced the onset of multiple sclerosis in May 1960, and the form of visual difficulties which were followed shortly thereafter by difficulty walking, total incontinence, and problems moving both hands.

In June 1961 spastic paresis of the lower limbs was observed, with paraparesis of the upper limbs (particularly on the right side) and a reduction in visual acuity. The serodiagnosis was negative for rickettsial and neo–rickettsial antigens, and is still negative for these antigens.

Within 8 months, broad–spectrum antibiotic treatment in association with alginated baths led to an almost total recovery when, in January 1962, following a severe grippal condition, sudden and almost complete blindness occurred, accompanied by the reappearance of the paretic phenomena involving the limbs.

Resumption of the broad–spectrum antibiotics led to a rapid improvement of all of the symptoms, except for visual acuity, which, although gradually improving, is doing so more slowly.

Case 20. – Mrs. A., 62 years of age, had had multiple sclerosis since 1954. She came to her appointment on October 12, 1961 supported by two crutches and being almost carried by two assistants, because she almost never left her bed. The clinical setting was manifested by spasmodic paraplegia of the lower limbs, accompanied by ocular difficulties, dysmetria, adiadochokinesia, and intermittent bladder incontinence. The serodiagnosis was mildly positive for *R. prowazeki*.

Improvement was evident starting with the first course of treatment with typhomycin. After 4 months of treatment, the patient returned for consultation accompanied but walking alone with the aid of two canes. After six months, she returned alone with just one cane, which she carried for additional assurance in case it was needed.

All of the signs had disappeared, except for the persistence of mild spastic difficulty walking, which was remedied by a course of thalassotherapy.

Case 21. – Mrs. M., 45 years of age, originally from Algeria, had moved to Paris and was working for an Algerian government group located there.

The multiple sclerosis began in 1950, in the form of ocular difficulties (blurred vision, amblyopia and diplopia) and paresthesia (first of the lower limbs and then of the upper limbs). In 1955 the patient experienced difficulty walking, characterized by a loss of balance while walking. The patient then contracted a form of rubella, whose treatment was followed by an apparent cure until 1960, when, following a cold, the neurological symptoms reappeared and worsened, making walking increasingly difficult.

In July 1962 the patient presented with full spastic paraplegia, accompanied by balance–related difficulties while in an upright standing position. Walking was impossible without assistance, but the upper limbs were affected to a lesser extent. All of these symptoms were accompanied by mild dysmetria and bladder incontinence.

The serodiagnosis was, and still is, negative for rickettsial antigens.

The improvement was noticeable as early as the start of the broad–spectrum antibiotic treatment, and continued consistently with the regression of the various difficulties. The patient resumed walking alone, no longer lost her balance, and is now considering the resumption of the work that had been abandoned since 1962.

Case 22. – Mr. M., 54 years of age, an employee of the S.N.C.F. [the French National Railroad Company], had multiple sclerosis which, after an initial improvement through the administration of corticoids, gradually became worse over the course of numerous hospital stays. In December

1962 to the spastic paraplegia became complete, and walking was impossible, even with assistance and with a cane.

The serodiagnosis was positive for H–24.

Treatment with antibiotics, alginated baths, and thalassotherapy was followed by a recovery that likewise continued, gradually and consistently, for a year. Mr. M. is currently taking 2–kilometer walks without becoming fatigued. He applied to, and was re–hired by, his employers, and is now in a position to take on a job that will allow him to keep working until he retires – whereas a year ago, the standard procedure for an employee in his condition consisted of mandatory and permanent retirement.

Case 23. – Mr. D., 46 years of age, was first affected by the initial manifestations of multiple sclerosis in 1959. These manifestations became gradually worse over the course of 3 years spent in various hospital departments (under treatment with anti–infectious agents, cortancyl, ACTH, and perfusions), until the patient was virtually completely powerless.

In June 1963 he arrived for consultation in a chair carried by two men. He presented with spastic paralysis of the lower limbs, accompanied by involvement of the upper limbs, visual difficulties, dysarthria, etc.

The micro–agglutination was mildly positive for *R. prowazeki* (1:160). (This figure changed to 1:1280 after the first course of typhomycin and then to 1:640, before returning to 1:160 in December 1963.)

Within six months, this patient's condition had improved to such an extent that he returned to his employer (the R.A.T.P.) [the Paris Transport Authority] and asked to return to work on a half–time basis, which request was granted.

He still walks with the aid of a cane, but all of the clinical signs have regressed, and his ability to stand upright with his eyes closed is normal. Consequently, this patient has experienced a very pronounced improvement. He is aware that he is not yet out of the woods, so to speak, but he views the current results as a miracle, inasmuch as he had experienced nothing but continuous deterioration during three years of traditional treatment.

Case 24 (a personal observation). – Dr. Christian V., 43 years of age, is a radiologist at the Hospitals of Reims. The first signs of the disease go back to 1949, in the form of temporary sensory difficulties and dysesthesia of the left half of the thorax, the abdomen, and the lower left limb.

These difficulties disappeared within two months, but reappeared the next year, and the lower limbs. They disappeared again two months later.

A long silence ensued until March 1958, when left optical neuritis occurred.

In March 1959 balance–related difficulties appeared and speech became spasmodic, the symptoms were accompanied by dysesthesia affecting the abdomen and the lower limbs.

The diagnosis of multiple sclerosis was made by a neurologist in Reims. The slow aggravation of the condition continued.

In December 1960 the serodiagnosis was positive for *R. burnetti*. The immediate administration of antibiotics and alginated baths produced an immediate improvement. Continued treatment led to gradual recovery, albeit with ups and downs, and enabled the establishment of a *new professional facility*, accompanied by such a sustained level of activity that in 1962 the subject averaged 54 hours of work per week, with only eight days of vacation. The year 1963 was characterized by an even more impressive performance.

Case 25. – Mrs. Paule G., 54 years of age, experienced the onset of the disease in 1956. The diagnosis of multiple sclerosis was made in March 1958 and confirmed at the Salpetriere [Hospital], to which Mrs. G. was admitted for a stay that lasted from March to October 1958. Her symptoms consisted of spasmodic paraplegia, dizziness, diplopia, and sphincteral difficulties.

In September 1960 the patient was able to move about with the use of a wheelchair or (with difficulty) with the aid of crutches.

The serodiagnosis was, and still is, negative.

Treatment with antibiotics, alginated baths, and thalassotherapy has led to a gradual improvement of the patient's general state of health and to the regression of the various difficulties.

Mrs. G. now walks alone, without a cane. She also writes, reads, and knits, and oversees the management of her household.

Case 26. – Mrs. L., 58 years of age, evinced the signs of the onset of multiple sclerosis in April 1950. The diagnosis was made in 1958, and confirmed by the neurologist employed by the Social Security Administration.

In June 1961 the patient's symptoms consisted of spasmodic paraplegia, ocular difficulties, vascular difficulties, sensory difficulties, dizziness, dysarthria, and incontinence.

The serodiagnosis was, and still is, negative for rickettsias and neo–rickettsias.

Treatment with broad–spectrum antibiotics, alginated baths, and thalassotherapy led to the regression of the various difficulties, and also to the gradual improvement of the patient's general state of health.

The patient now goes up and down stairs easily, and takes walks over distances of 1 to 2 kilometers with no assistance and without a cane.

Case 27. – Mrs. Therese G., 38 years of age, experienced the first manifestations of the disease in the spring of 1958. The diagnosis of multiple sclerosis was made at the St.–Michel Hospital, and confirmed in December 1961 at the Pitie Hospital.

A clinical examination performed in June 1962 reveal the presence of spasmodic paraplegia of the lower limbs, accompanied by vascular difficulties. The patient experienced difficulty walking, loss of equilibrium, and the inability to use the right hand.

The serodiagnosis was positive for *R. burnetti* (at a ratio of 1:20). Broad–spectrum antibiotics, administered in association with balneotherapy, allowed the patient to achieve a remarkable recovery. Her walk returned to normal, she no longer loses her balance, she has regained the use of her right hand (for knitting and writing), and she has resumed her previous activities.

Case 28. – Mrs. Jeanne P. R. 43 years of age, had multiple sclerosis that began in July 1962. The diagnosis was made in March 1963, at the Salpetriere [Hospital]. In July 1963 the patient's symptoms consisted of paraplegia (primarily on the right side), functional uselessness of the right hand, dysesthesias, ocular difficulties, vascular difficulties, dizziness, dysarthria, and persistent constipation.

The serodiagnosis was negative for rickettsias.

Nevertheless, treatment with antibiotics and alginated baths was administered.

The response to the treatment was spectacular. The difficulties disappeared, and the patient's condition returned to normal. She regained the use of her right hand, which allowed her to write

and sew again. Walking no longer poses any difficulties, and the patient has resumed all of her activities.

Case 29. – Mrs. R. S., 37 years of age, first experienced the difficulties associated with her condition in 1952, in the form of visual difficulties, a major but temporary discoloration of the papillae, and profound changes in her chromatic field and color sense. The symptoms were accompanied by paresthesias and dysthesias of the lower limbs, which evolved in the form of successively more pronounced outbreaks.

In January 1960 Mrs. S. was admitted to the Purpan Hospital in Toulouse, due to paraplegia. The diagnosis of multiple sclerosis was made at the hospital. Conventional treatment was implemented, with no success. Instead, the patient's condition only became worse.

In May 1960 the situation was very serious. Eating was impossible, and persistent vomiting occurred with the slightest movement of the head. The course of the condition was extremely alarming. The serodiagnosis performed at that time was positive, first for *R. conori* and then for *R. burnetti*.

Broad–spectrum antibiotic treatment and alginated baths brought about an unhoped–for recovery, which is still continuing. Mrs. S. has been able to resume her domestic activities and go for walks in the country. Her doctor wrote to us, in the following words: "I can tell you that the neurologist in this area have adopted your point of view because of the results that have been obtained with Mrs. S., who was moribund when your treatment was begun more than three years ago."

Case 30. – Mrs. M., 46 years of age, on December 20, 1960 presented with the first symptoms of a condition for which a diagnosis of myelitis was envisioned, and which was characterized by spasmodic paraplegia with sphincteral difficulties. Although neither lipiodol, radiography, or the tomography of the spinal column provided any formal confirmation, a diagnosis of medullar

compression was made. Then, on January 20, 1961, on the basis of a 90% probability of the presence of a tumor, a surgical procedure was performed in the D7–D8 region . . . uselessly. The diagnosis of multiple sclerosis was then accepted.

After the operation, treatment with corticoids was proposed, but was rejected. On March 31, treatment with broad–spectrum antibiotics was begun, despite the fact that the serodiagnosis was negative for rickettsias.

Within a few months, this treatment led to a spectacular recovery.

A new serological examination performed at the end of 1962 was slightly positive for *R. prowazeki* (at a ratio of 1:320).

Treatment was continued, and in January 1963 a neurological examination showed that all of the reflexes, including the abdominal cutaneous reflexes, had returned to normal, and that no clinical signs supported a retrospective diagnosis of multiple sclerosis. The patient regained full activity.

* * *

Can we really talk about healing? We believe so, at least for the precocious cases, because these represent instances of acute arteritis.

For chronic cases we prefer to use the word "recovery," because the deep sources of infection, *like all deep sources of chronic malarial conditions*, can manifest themselves very suddenly, even after long periods of silence, in response to physiological or non–physiological stimuli, such as seasonal cycles, cold, flu, overwork, psychological shock, etc.

Isolation of the strain that consistently represents irrefutable proof was our first thought, and *we should note that the two experiments that were undertaken since the start of our research on mice and guinea pigs did indeed confirm the rickettsial etiology, because each of these*

experiments enabled the isolation of a minor strain. In order to isolate a virulent strain, the case must be addressed at its very beginning. A sustained program requires close collaboration between specialized laboratories and hospital . We are confident that such a collaboration will take place, sooner or later.

Meanwhile, however, *there is other evidence, which is likewise irrefutable and which takes precedence over all other evidence for patients and clinical practitioners*. This proof, of course, consists of the effectiveness of the treatment administered in response to the rickettsial etiology, and its confirmation over the course of time.

We have just reviewed the cases of 30 patients whose deterioration, whether imperceptible or by leaps and bounds, was progressing inexorably, and who, as a result of the specific treatments, got back on their feet, regained the territory that they had lost, and resumed their position in society – some of them for a period now exceeding four years.

This cannot be a mere coincidence. *The reason why no neurological solution has been found for multiple sclerosis, and the reason why such a solution cannot be found, is that multiple sclerosis is caused by an infectious vascular condition*.

The goal of our lectures is to draw the attention of clinical practitioners to a class of diseases that have always been disregarded, and whose fate may now be completely transformed through specific anti–rickettsial treatment, and to explain to clinical practitioners how and why this accomplishment can be achieved.

Our company's bylaws do not allow us to introduce the subjects who have been treated. We have attempted to circumvent this difficulty by showing you a few pieces of film, which have been inexpertly produced by amateurs, but which nevertheless are clearly illustrative. These pieces of film attest to recoveries that can now be hoped for in cases of multiple sclerosis, *if the specific treatment guidelines are implemented as they should be, for the necessary period of time*.

Discussion

F. Blanc: – In several communications to the Exotic Pathology Society, Mr. Le Gac, Mr. Arquie, and their colleagues have explained their notion of a rickettsial etiology for certain types of multiple sclerosis, and have contributed their observations of patients with multiple sclerosis who have been definitively cured through antibiotic treatment.

These findings are extremely important in the area of the etiology and treatment of a disease whose causes are still mysterious, and for which the outlook is all too often pessimistic.

In our opinion, all of these remarkable reports should be re–addressed by the authors, with the greatest possible degree of precision, and presented to the Paris Neurology Society.

We believe that the following remarks can be made:

– The diagnosis of multiple sclerosis is a strictly clinical diagnosis. It is not supported by any laboratory examinations. For mild forms of the disease, this diagnosis is often extremely difficult.

– The evolutional modalities of multiple sclerosis are capricious. Long–lasting stabilization plateaus can occur, [and can be mistaken] for remissions or even for regressions.

It is unfortunate that in the past, the rickettsial or neo–rickettsial etiology could be confirmed only indirectly, through serology or through the results of a therapeutic trial, rather than through the detection of rickettsias in the central nervous system (i.e., in the vascular endothelium) by direct examination or by means of cultures.

J. Tisseuil: – Multiple sclerosis is an evolutionary disease, from the clinical point of view as well as in terms of pathological anatomy. The common form develops through outbreaks that

are separated by more or less full remissions, whose duration may range from a few days to several years. These remissions can be so complete that we can speak of pseudo–cures. Patients who are unable to walk can return to their activities within a few weeks.

Anatomo–pathology also indicates that this disease is evolutionary. In addition to the old, hard, and gray sclerotic plates, foci also exist that are young, pink, and moist. The main characteristic of these foci is that they are centered around a vessel – sometimes a pre–capillary veinlet, and sometimes a capillary. The swelling of the endothelium and of the adventitia is supplemented by an infiltration of round polymorphic cells.

Consequently, this disease does not consist of simple sclerosis. Young foci are developing next to the old, fixed foci. It is in these young foci that the rickettsias should be detectable, if they are indeed involved. Another fundamental characteristic of these lesions is the extent of their location around the central vessel. This position is obtained in the same way in which a drop of ink spreads on a piece of blotting paper, with no relationship to the distribution of the central vessel. Therefore, a nutritive disturbance cannot be invoked as an explanation for these lesions.

In rare cases, this centrifugal extension can take place in the form of concentric bands of sclerotic tissue alternating with bands of fairly well preserved bands of myelin. The centrifugal progression is reminiscent of the lesions caused by bacteria, which progress at the same rate as the lesions that they create.

If the rickettsias were involved, these renewed young lesions should be accompanied by frequent positive micro–agglutinations at high levels. According to the figures published by Capponi, these reactions are positive only at low levels, in approximately 28% of 1100 serums. These results can hardly be used to support the hypothesis that multiple sclerosis is a rickettsiosis, or even provide grounds for presumption.

In conclusion, the chairman stated that the Exotic Pathology Society has been pleased to provide its colleagues Le Gac and Arquie with the means and the opportunity to disclose their theory.

However, the chairman believes that the debate cannot be continued in this venue, in which no further progress can be made. Rather, the discussion should be continued within the context of a more specialized professional society.