

**W.F.A.S.'94 SEOUL INTERNATIONAL
ACUPUNCTURE-MOXIBUSTION SYMPOSIUM**

**JAPAN ACUPUNCTURE ASSOCIATION
CONGRESS (MEIJI SHINKYU MEDICAL SCHOOL) - 1995**

AND

**14TH ANNUAL INTERNATIONAL SYMPOSIUM ON
ACUPUNCTURE - COLUMBIA UNIVERSITY
(MEDICAL SCHOOL) - 1998**

**TREATMENT OF MULTIPLE SCLEROSIS BY ELECTRIC ACUPUNCTURE
- INVESTIGATION OF 332 CASES -**

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TREATMENT OF MULTIPLE SCLEROSIS BY ELECTRIC ACUPUNCTURE: INVESTIGATION OF 332 CASES



Mitsuharu Tsuchiya

Introduction: Over the last sixteen years a number of patients with Multiple Sclerosis have come to this Center for help. This disease usually presents in the form of recurrent "attacks" of focal or multi-focal neurologic disfunctions, reflecting lesions within the CNS. "Attacks" occur, remit and reoccur seemingly over many years. Multiple Sclerosis is pleomorphic in its presentation and the clinical picture is determined by the location of loci demyelination. The most common symptoms in these patients were: impaired vision; nystagmus; dysarthria; decreased perception of vibrations and sense of position; ataxia and intense tremor; weakness or paralysis of one or more limbs; spasticity and bladder problems. Corticotherapy had been introduced to these patients in accordance with western medical practice. In acute flare-ups of the disease, glucocorticoid treatment may diminish the severity of symptoms and speed recovery. However, ultimate recovery is not achieved by this drug, nor is the extent of permanent disability altered.

Method: The author proposes to present the therapeutics employed.

Result: During 1978 - 1994, there were a total of 332 patients who suffered from Multiple Sclerosis which attend to our Center for Electroacupuncture treatments. The treatment lead to considerably positive improvements on 5 patients (1.5%) (they were capable of leading a normal life), mentionable improvement on 132 patients (39.8%), no symbolic difference on 118 patients (35.5%), unfortunately some deteriorated in their state (8.4%) and some quit the treatment (14.8%). It is important to refer that during the course of the treatment,

glicocorticoids were not administered to these patients.

Discussion: The author propose to present statistical data accomplished through the treatment and also offer a theoretics esplanation of how Acupuncture operates to obtain the results mentione above.

Conclusion: The treatment of Multiple Sclerosis by Electroacupuncture undertaken at the Center proved to be very effective.

INTRODUCTION:

Definition:

Multiple sclerosis (MS) is the most commonly diagnosed chronic disease of the Central Nervous System (CNS), affecting more frequently people between the ages of 20 and 40. Diagnoses before the age of 15 and after the age of 50 are very seldom.

In this disease, certain areas of the CNS suffer destruction of the myelin sheath accompanied by an inflammatory response.

Patients with MS can continue having a satisfactory life quality, comfortable and productive, despite the potencial or actual incapacities and the progressive or fluctuating nature of these alterations.

Etiopathogenesis:

This disease usually manifests in the form of reccurrent "attacks" of focal or multifocal neurological dysfunction that reflect the appearing of lesions within the CNS sucessively and over many years.

During typical episodes, symptoms present over a period that can extent over several days or months. The quikness of recovery varies significantly between patients and from one "attack" to the next in the same person. In some cases recovery may be complete, particularly during the first several "attack". However remission is incomplete as one "attacks" follows the other.

In approximately 1/3 of cases the disease is characterized by a slow development although inevitably progressive.

The etiology of MS is still unknown but some groups of risk were already identified:

residence before the age of 15:	temperate climate
social and economical level:	high > low
age:	20 - 40
Racial background:	white > negro > asian
family history:	siblings > parents > others
sex:	feminine > masculine (2:1)

Chart 1- Characteristics of People at Risk to Develop MS

It is supposed that the exposure to a common environmental "agent" may produce a dis-coordinated immunitary response among individuals with a genetic predisposition. This happens because MS occurs more frequently in temperate climates and in economically more developed countries. Apparently this exposure seems to happen during childhood or in the beginning of adolescence once the geographical risk is based on the residence during childhood.

The causing agent of this pathology has not been identified yet but many authors suspect that it may be a virus. Theoretically the virus would be able to persist in CNS with intermitten reactivations. Alternatively the virus would be able to induce a dis-coordinated autoimmune response and then disappear. But the attempts to identify and isolate that virus or to transmit MS by direct inoculation have failed.

It looks like that susceptibility to develop MS depends on some genes. The probability of this pathology to appear is 10 times superior in individuals with family history of this disease than in the rest of population.

MS seems to be a disease induced by a virus immuno-pathologically mediated. The immunologic process appears to involve a non specific activation of the plasmatic cells of the CNS and not a response to a specific infection. In MS plaques a great quantity of IgG is produced by the plasmatic cells of the CNS. Studies have show the presence of antibodies against a multiplicity of viruses and also non identified antigenes within MS patients' cerebrospinal fluid.

The cellular immunity seems to perform an equally important role. T lymphocytes and macrophages existing in the plaque seem like to be involved in the primary processes of the disease. The alteration of peripheral levels and of the sub-populations of T cells of the CNS have been tried to be correlated with acute episodes of MS. Low levels of some interferons can lead to a deficient function of "killer" cells against the infected cells by the virus. Otherwise -interferon seems to be common within MS plaques and plays an active part for the development of the disease.

At last, the fact that immunosuppressing therapies are successfully applied in MS treatment supports the theory that immunitary mechanisms can contribute for the appearing of the lesions produced by this disease. However the true nature of the disadjustement in the immunitary

response is controversial.

In MS many discrete and scattered areas of myeline destruction, named plaques, appear. These inflammatory lesions of the CNS, white matter, are continuously appearing and resolving even during the clinical quiescence periods. In the beginning, there occurs possibly an intermittent "continuity solution" in the barrier between blood circulation and the brain allowing the immunocompetent lymphocytes and macrophages to reach the CNS in response to an antigenic stimulation. The active lesions are edematous and in the beginning discrete perivenular inflammation areas in the white matter appear, that grow and coalesce. Active macrophages destroy the myeline sheath. Axons are left "naked" but their characteristics are relatively well maintained, even in chronic lesions.

The older plaques are progressively less inflamed. As long as oligodendrocytes are destroyed, astrocytes proliferate, producing fibrous tissue.

The neurological disfunction results first from the partial, complete or intermittent interruption of the nervous conduction through the demyelinated areas. The sequential or jumping conduction of a nervous impulse, when reaching a demyelinated region, is interrupted.

Recovery may be consequence of a certain number of circumstances such as:

- resolution of the inflammation;
- decrease of the edema;
- removal of theoric humeral factors;
- partial remyelination;
- renewal of a form of conduction through the demyelinated areas;
- renewal of nervous transmisson through other ways.

Factors allowing recovery seem to operate more frequently and completely during the first lesions.

Symptomology:

The signals and the symptoms depend on the age, acivity and localization of the lesions.

The plaques, as mencioned before, affect mainly the white matter of the CNS:

- optic nerve - optic neuritis;

- brain, specially periventricular areas and frontal lobes - behaviour and affective alterations;
- spinal cord, mainly cervical region - weakness, spasticity, numbness, bad functioning of the intestine, bladder and alterations of sexual activity.
- brain activity - vertigo, nystagmus, internuclear ophtahlmoplegia, dysarthria and dysphagia.

<u>Motor/Brain</u>	<u>Sexual</u>	<u>Visual</u>
Weakness	Damaged erections	Nystagmus
Spasticity	Damaged genital sensations	Decrease of activity
Ataxy	Decrease of libido	
Dysarthria	Decrease of vaginal lubrication	<u>Intestine</u>
Dysphasia		Obstipation
<u>Sensitive</u>	<u>Behaviour/Affectivity</u>	<u>Bladder</u>
Numbness/Pares- thesia	Memory	Urgency
Trigeminus neu- ralgia	Attention/Concentration	Frequency
	Depression	Incontinence
	Problems resolution	Hesitation/ Retention
	Emotional instability	
<u>Fatigue</u>		
<u>Heat Intolerance</u>		

Chart 2- Signals and symptoms of the MS

METHODS OF TREATMENT

In the treatment of MS by electroacupuncture current used was of 8Hz for periods of 20 minutes on the anterior zones and 15 minutes on the posterior zones. The acupoints used were:

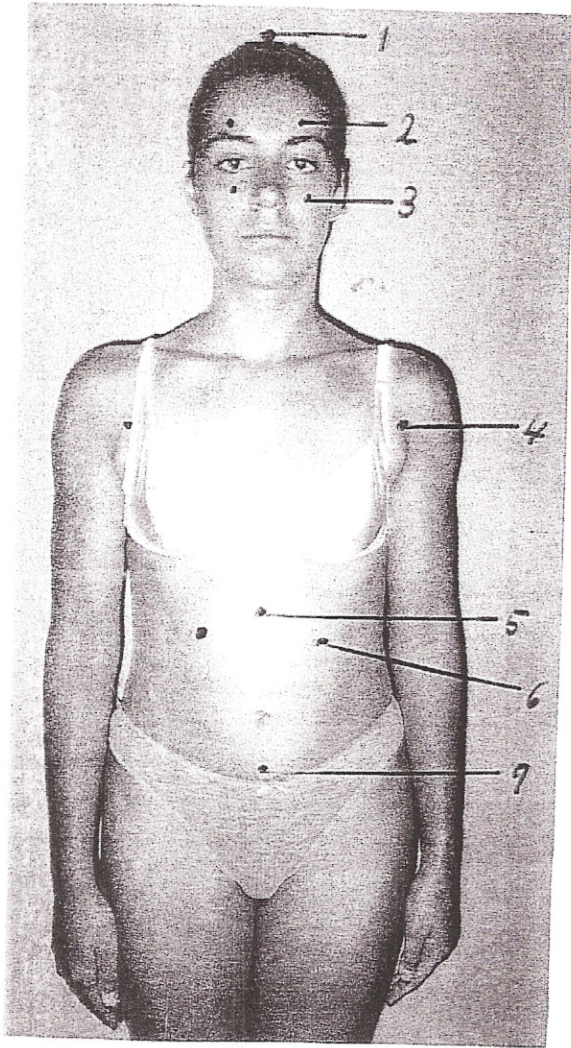


Fig 1-

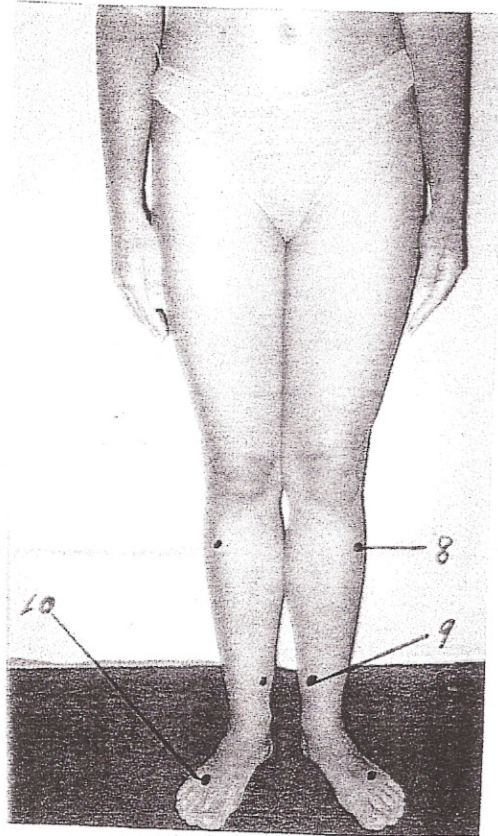


Fig 2-

1- GV20
 4- L1
 7- CV6
 10- G41

2- G14
 5- CV12
 8- G14

3- S2
 6- G24
 9- SP6

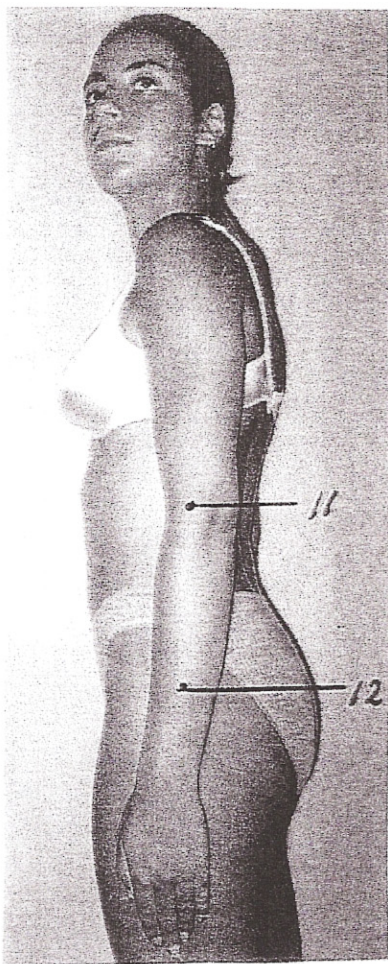


Fig. 3
11- LI11 (Large Intestine)
12- TE5

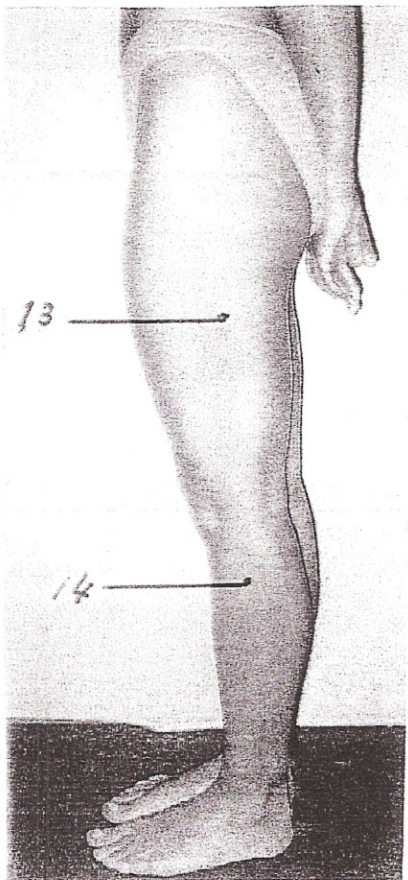


Fig. 4
13- G31
14- S36

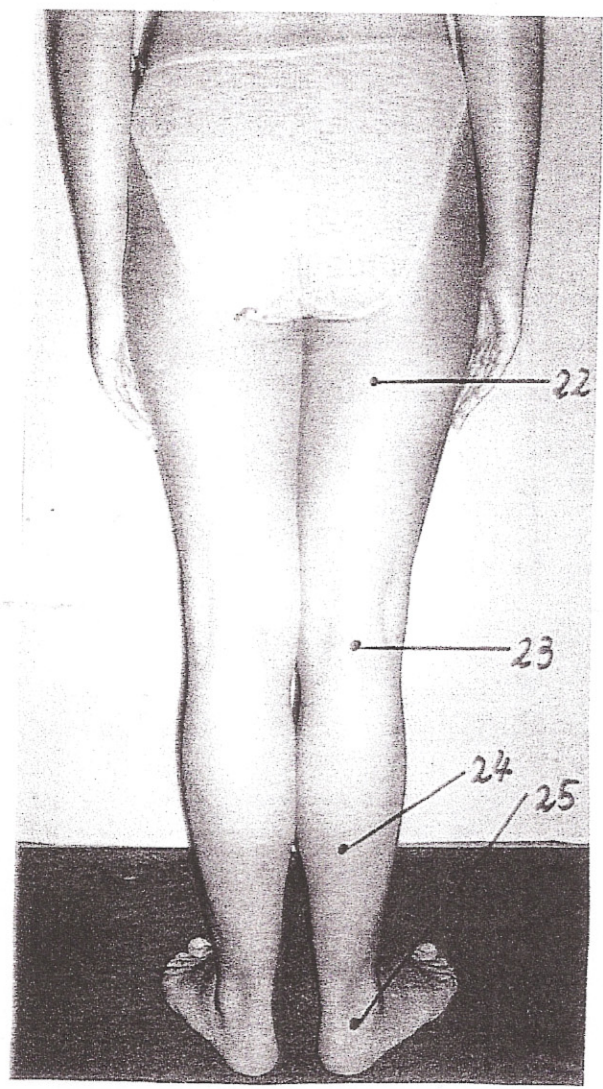
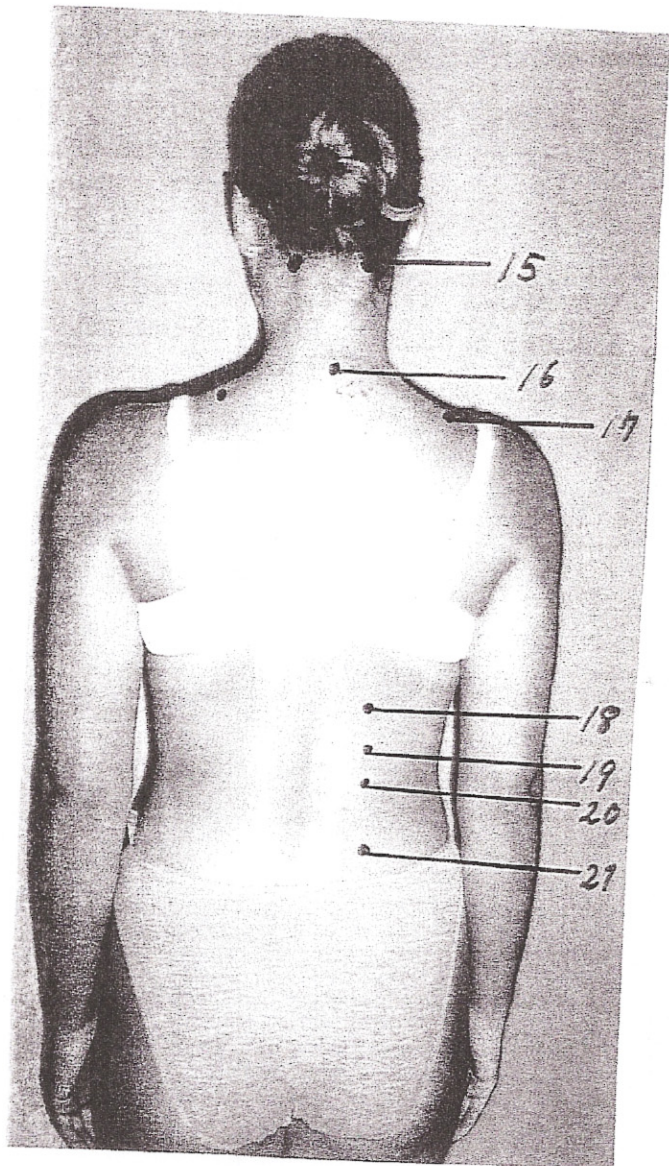


Fig. 5
 15- G20
 19- B49
 23- B40

16- GV14
 20- B50
 24- B57

Fig. 6-
 17- G21
 21- B52
 25- B60

18- B48
 22- B37

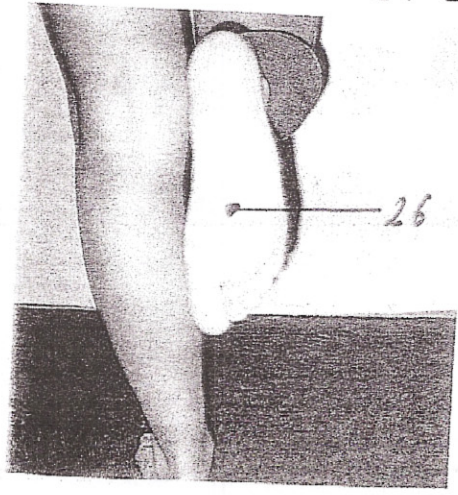


Fig. 7-
 26- K1

RESULTS

Therefore, between 1978 and 1994 we obtained the following results from 332 patients who presented the disease and came to our Clinic:

- good results in 1.5% of the patient (they are carrying a normal life after the ending of treatments);
- accentuated improvement in 39.8% of the patients (they showed an intense fatigue when working too much);
- in 35.5% of the patients the situation remains stable (there was no evolution);
- 8.4% of the patients gave up (see chart nº 3).

Treatment lasted one year and during that time neither corticosteroids nor immunosuppressive drugs were administrated.

DISCUSSION

Electroacupuncture has been very effective in the acceleration of recovery from MS "attacks" and also in the reduction of the frequency acute periods of this disease.

After analysis of the results obtained, it would appear that the action of electroacupuncture in the treatment of this pathology is associated with the stimulation of the Sympathetic Nervous System and consequent release of ACTH by the adenohypophysis.

ACTH acts at the level of the supra-renal cortex, promoting the liberation of glucocorticoid hormones.

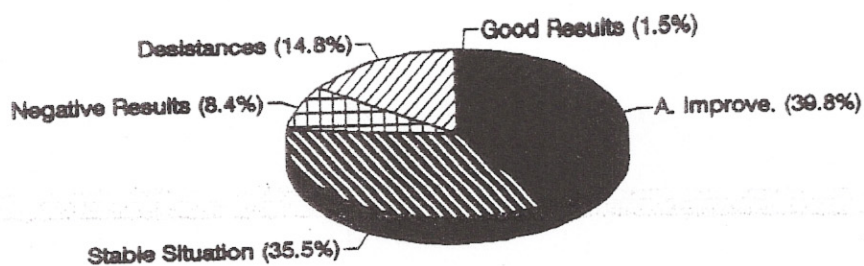
According to Guyton (1976), the key resides in the stimulation of the Hypothalamus to release the Corticotrophine Release Factor in the primary plexus of the Pituitary System Portal on the median eminence of the Hypothalamus, and it is this factor which is transported to the adenohypophysis where it causes the secretion of ACTH.

According to Pomeranz (1990) the cortisol dose liberated by Acupuncture is very little and carefully regulated (negative feed-back at the Hypothalamus and adenohypophysis level), in this way, avoiding the secondary

Good Results	5	1.5%
Accentuated Improvement	132	39.8%
Stable Situation	118	35.5%
Negative Results	28	8.4%
Desistances	49	14.8%
TOTAL	332	100.0%

Chart 3- Results of Electric Acupuncture in the Treatment of MS

**Results of Electric Acupuncture
In the Treatment of MS**



effects of corticotherapy.

These hormones affect deeply the immunologic and inflammatory activities. They block the neutrophils and lymphocytes movement towards the inflammation place. A big sort of lymphocitary functions to the inflammatory and immunologic response are suppressed, including the cellular activation, proliferation and differentiation. The glucocorticoids also stabilize the lysosomic cell membranes, inhibiting of the liberation of enzymes important for the inflammatory response.

So, it seems that glucocorticoids improve the capacity of demyelinated nerves to conduct the nervous impulse and reduce the edema and inflammation of plaques.

It is interesting to mention that our Clinic concluded that the good results obtained by the use of electroacupuncture were observed among those patients to whom the corticotherapy was not still administrated. This may be due to the fact that suppressing action of the supra-renal and of the hypothalamus-hypophysary axis, caused by the prolonged use of this therapy, has not occurred yet. However this hypothesis is still being studied.

According to several works, electroacupuncture has showed to be able to re-balance the altered immunity parameters and reestablish the efficiency of humoral and cellular immunity. There are proofs that electric acupuncture induces the "auto-regulation" of the immunity system, acting as an effective immunomodulator probably because of its action at the level of the macrophages population and T "helper". Our Clinic is also proceeding with the investigation concerning the action of electroacupuncture in these two matters.

In situations where painful symptoms manifest, the mechanism by which acupuncture lessens and cures pain seems to be associated to the stimulation of endorphine liberation through Hypophysis.

Endorphine is an endogenous oligopeptid that, because of its morphinoid structure and capacity of relationship with opiod receptors, can activate the inhibitory mechanisms of pain. The receptors are located in various places of pain transmission among which the dorsal horn of the spinal medulla, the mesencephalon and the thalamus.

It was also verified that in some patients the psychic stress was the

origin of MS "attacks" awakening. That is why our Clinic used psychotherapy.

CONCLUSIONS

Considering these results we conclude that Electric Acupuncture is effective for the treatment of MS.

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Treatment of MS by Electric Acupuncture: An Example



Name: Valentina Augusta Palminha Rodrigues Henriques

Date of Birth: 28th, February 1946

On a Wednesday, after a hard day of work, having strained my eyes too much, I felt something unusual with them. It was the first time that I experienced such an occurrence, and it was something I was not able to identify - a type of cerebral fatigue. The following day I just felt slightly tired.

On the next weekend I left town, and that was when I felt that my situation got considerably worse: on Sunday morning, however hard I tried to focus on objects, it appeared to be blurred and duplicated. I also had a minor sensation of vertigo, but after resting for some time I felt a little improvement in my conditions.

The next day, my condition had proceeded to the worse:

- a strong feeling of unbalance;
- uncoordinated vision, meaning that each eye was receiving images independently, and only after a period of convergence the image would be fixed;
- an unclear notion of distance (it was almost impossible to perceive depth, as if it was a 2D vision);
- inability of reading correctly as my eyes wouldn't focus on the lines (it was easier to use only one of the eye);
- a terrible sensation of anxiety when I realized I was ill.

In that same day, I tried to reach my doctor, but it was only possible on

Wednesday, 28th of July, 1993.

She told me that she could not diagnose my situation, and had me send to the Neurology Urgent Services of Santa Maria Hospital (SMH), for an immediate observation. She said that a small cerebral hemorrhage might have occurred although usual symptoms were not seen.

In SMH, I was examined by a Neurologist who sent me to the Otorhinolaryngology section, and afterwards to the Ophthalmology section.

At the Ophthalmology services, I was observed by the team in service, and as there was nothing justifying the symptoms, I was made a CAT in the same evening. I also suggested to make a MRI the next day at Neurology services.

In meanwhile, some days had passed since my first symptoms appeared, and I still kept on getting the same symptoms while some new ones appeared:

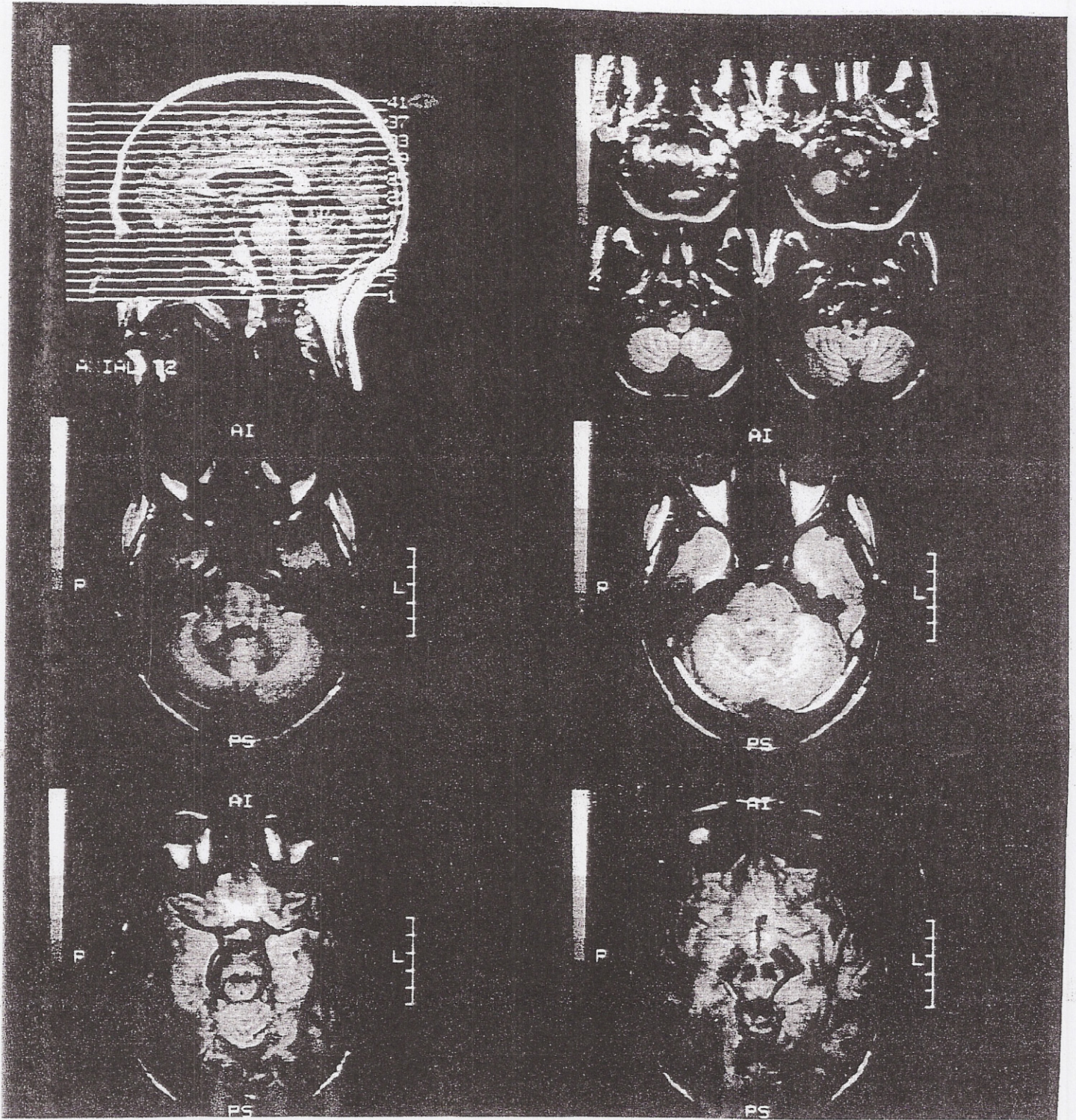
- inactive or retardation of reflexes (when an object fell, I could see it but I was not able to react on time);
- incapacity to deviated from an obstacle on my way;
- movement discoordination (every gesture had to be done separately e. g.: looking, moving the hand or leg, etc.);
- a need of immense concentration for every gesture.

After 15 to 20 days, some of the symptoms diminished. Movement coordination got slightly better, I was able to avoid some objects (if it had enough time to think about it). I was getting better everyday until one day the improvement stopped. The following symptoms still remained:

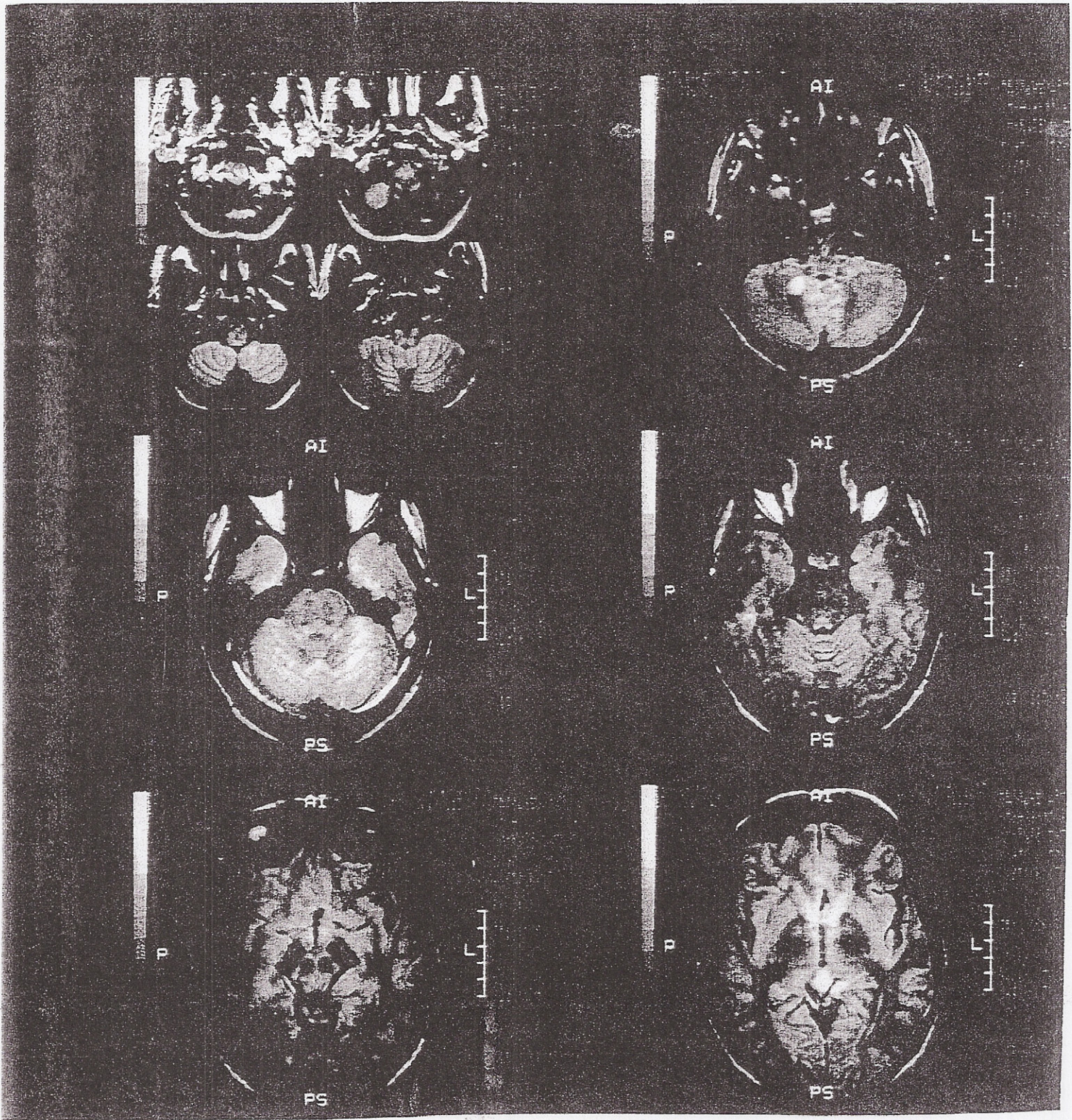
- difficulty to read;
- impossibility to see or hear tge TV (image was not steady and the sounds seemed to be terribly aggressive);
- a significant sensation of insecurity and anxiety (I had a feeling that I was a different person, and a difference in personality);
- my eyes could not move. I had to turn my head to look around as my eyes were "locked".»

August the 3rd, 1993 - the date of MRI.

The results were ready a week later, so I went to the Neurology meeting in SMH.



Some images of MRI - August the 3th 1993



Some images of MRI - August the 3th 1993