Treatment of Patients with Cancer for Stressful Emotion Transmitted from Ancestry by Using Genetic and Immunologic Data as Barometers

Kei-Ichiro Kobayashi*, Tsunetsugu Munakata, Sayuri Hashimoto**, Takashi Hayashi***, Shigeko Sakamoto***, Miyo Hori***, Kazuo Murakami***, Ryoichi Obitsu**** (SAT Therapy Project, University of Tsukuba)**

"Vivid Life" Counseling Room*, Department of Human Care Science, University of Tsukuba**, International Science Promotion Foundation***, Obitsu Sankei Hospital****

Correspondence:

3-38-10 Miyoshi-Cho, Fuchu-City, Tokyo, 183-0045 Japan, "Vivid Life" Counseling Room

E-mail Address: k.-i.kob@jasmine.ocn.ne.jp

ABSTRACT

Psychological scales are effective barometers of the memory of stress images in the therapeutic treatment of psychic symptoms like distress and depression. In the SAT imagery therapy to treat patients with cancer, however, their latent stress images are, except at the initial stages of therapy, hard to be revealed by psychological scales, owing to a personality known as the Type C behavior pattern in which a high degree of alexithymia is known to be common. When we treat the patient with cancer in the long run using the SAT imagery therapy, it required to adopt physiological data as barometers for their link with stress has been scientifically proved and also for they are affected neither by self-recognition of stress nor by consciousness. In this paper we introduce the two cases of health counseling for the patients with cancer in which adaptation of physiological data as barometers of stress image memories was proved effective. In the series of therapies, through the seasonal change of the physiological data, we have dealt with latent stress images connected to summer season. Our therapy has been conducted for about four years continuously, during which assessment has been made on the ratio of neutrophils, the ratio of lymphocytes, actual number of lymphocytes as barometers of immune strength and also the expression of four tumor-suppressor genes (*p53, RB, BRCA2 and RUNX3*) as barometers of genetic defensive force.

Key Words. SAT imagery therapy, cancer, tumor-suppressor gene, immunity, seasonal change

1. Introduction

It is known that every day several thousands of cancer cells are generated in the body of a man who leads ordinary social life and that they are responded by immune strength to exclude non-self cells[1]. Under heavily stressful situation, the sympathetic nervous system holds dominant position in terms of the balance of autonomic nervous system, and the immune strength of lymphocyte, which are effective to destroy cancer cells, falls down, the number of active oxygen to wound tissues and genes is increased. When it lasts long, the cancer cells may be developed to cancer tissues[2][3].

According to Temoshok, there is a common behavioral pattern to the patients with cancer dubbed a Type C behavioral pattern when cancer is taken as a stress disease[4]. Its traits are not to express negative feelings, to be persevering and to show self-sacrificing behavior. In terms of psychological scales used in SAT imagery therapy, it is characterized as high degree of alexithymia, strong self-restraining behavioral trait and weak problem solving behavioral trait. Often observed also are the cases of high degree of self-dissociation and self-compassion[2]. Among them all, commonly found is the case of high degree of alexithymia. In case these tendencies are remarkable, the patients are apt to make the stress latent for they do not recognize it as negative feeling. They do not tackle the stress practically, and they leave autonomic nervous system and hormone secretion unbalanced for a long time over 10 years. As a result they tend to make cancer appear as a somatic symptom.

Here exist two kinds of problems. The first one is the sensitivity to receive an external stimulus as a strong stress. The second one is the high degree of alexithymia, which prevents them from recognizing severe stress as own feelings. Both of these problems are caused by the past stress image memories and therefore the SAT imagery therapy using the image in the womb is effective. Cases treated by this therapy have been reported by Munakata and Kobayashi[5][6][7]. In these cases problems concerning psychological scales are solved with two or three times of therapies. After this stage, psychological scales are hard to be adopted as barometers of latent stress.

Psychological therapy is terminated at this stage because conscious distress and sense of depression are gone. In case of health counseling, however, because it deals with somatic symptoms caused by

latent stress, continuous treatment becomes emphatically needed for latent stress, which does not reflected in psychological scales. Some latent stresses, transmitted from ancestors of generations ago, are hard to be realized. In addition, cancer patients in many cases select continuation of therapy at two-to-three month intervals in parallel with the observation of development of cancer even after the improvements of psychological scales. Therefore, it is needed to adopt as barometer of stress the physiological data whose high correlativity with stress have been scientifically proved, for they are affected by neither recognition nor awareness of stress. It is reported by Abo that the ratios of lymphocytes and neutrophils in a white blood cell are influenced by stress through the changes in the balance of autonomic nervous system[8]. Reported also by Munakata is that both ratios of lymphocytes and neutrophils show remarkable changes of more than 10 per cent when the patient receives a heavy stress due to the increase in tumor markers[5]. In addition, there is a report from the view point of genetic level that tumor suppressor genes of the patients with cancer are expressed by the use of SAT imagery therapy[5][6][7].

Traumas accompanied with stress image memories in the past flash back when amygdala in cerebral limbic system recognizes the key situation common to the past scene and force to recognize an external stimulus as a heavy stress. When the key situation is conditioned as the factor like heat and coldness that is closely related with any particular season, traumas become sensitive to seasonal stimulus. However, in order to make a judgment if the subject stress is caused by seasonal factor or not, it is necessary to observe in the physiological data the reappearance of stress reaction in the same season for more than two consecutive years. The probability that the stress is caused by other factors cannot be excluded with the data only for one year, because urgent response to the true causes is required when the properties of cancer are taken into consideration.

In this paper therefore, we introduce necessity and efficacy of health counseling based on the physiological data, by introducing the cases in which we have continuously tackled the latent stress of the patients with cancer by observing seasonal changes in the ratios of lymphocytes and neutrophils, actual number of lymphocytes and also the degree of expression of such four kinds of tumor-suppressor genes as *p53, BRCA2, RUNX3 and RB*, which are closely related with cancer and can be measured scientifically as the immune strength and genetic defensive force.

2. Physiological Data & Stress

Most of human internal organs are controlled by autonomic nervous system and are influenced by the balance between sympathetic nerves and parasympathetic nerves. When, for instance, sympathetic nerves become advantageous with tension under heavy stress, the heart starts beating rapid. When parasympathetic nerves become advantageous with relaxation, the heart starts beating slow. When sympathetic nerves get excited, adrenaline as a neurotransmitter is secreted from the end of nerves and then the ratio of neutrophils that have adrenaline receptors increases. While on the other hand, the ratio of lymphocytes increases if parasympathetic nerves get excited due to the secreted acetylcholine[8].

These changes are so rapid that they are noticeable even before and after a few hours of counseling. When cerebral limbic system and hypothalamus recognize the stress even without consciousness, therefore, the ratios of neutrophils and lymphocytes change. Thus, it enables us to adopt them as barometers of stress. At the same time, we measured the actual number of lymphocytes, which changed under the influence of the ratio of lymphocytes. The respective target value for each barometer was set, following Abo's report[8] , as follows; 51 to 57% for the ratio of neutrophils, 35 to 41% for the ratio of lymphocytes, not less than 2000/μl (primarily 1500/μl), and for the degree of relative expression of tumor suppressor genes not less than 200% in comparison with the pre-intervention value[5] [6] [7] .

As to tumor-suppressor genes, it is known that *p53* and *RB* are found to have close relation between various kinds of cancer. Also *BRCA2* and *RUNX3* are reported to be closely connected with breast and stomach cancer, respectively[9-12]. It is advocated that we can connect these genes with psychological aspect based on the accumulated data. In SAT imagery therapy, the three basic needs of the soul that all of us human beings possess are defined as affection seeking demand, self-trust demand and affection for others demand[3]. In this regard, following correlations have been proposed; fulfillment of affection for others demands causes expression of *p53*, fulfillment of self-trust demands causes expression of *RB*, fulfillment of affection-seeking demands causes expression of *BRCA2*, and the prospects for obtaining fulfillment of the basic needs causes expression of *RUNX3*[2][13]. In other words, we have stress when these demands are not fulfilled and therefore no prospect is obtained.

3. Methods of Research

Having explained scientific grounds of SAT therapy and some precedents to the patients of cancer who wish to receive it, we gave information on the assessment of genes. After obtaining their written consent, we started the therapy. As the data taken before the intervention were to be adopted as the standards for judging the subsequent data, we took blood for testing before and after the first therapy and measured the constituents of blood and tumor-suppressor genes therein. After the second therapy, we took blood for testing only after the therapy.

Psychological scales were checked before every therapy and each therapy was conducted based on these scales and the patient's chief complaint. After each therapy, we rechecked only the necessary items and assessed the efficacy of the ideal image obtained by the patient through the therapy.

The first few therapies were conducted at one to two week interval and at one-month interval thereafter. After the patient entered the stable stage, a few months interval was taken between each therapy in principle.

In this paper we introduce mainly the case of patient *A* in which latent stresses were solved by the continuous coping with seasonal changes of blood data, with patient *B*'s case as a supplement. We will omit both the progression for the initial one year, because detailed reports are already available[5][6]. Since psychological scales of these patients have shown no problem after several times of therapy, the data of these scales are omitted in this paper. Thus, we will discuss only ratio of lymphocytes, that of neutrophils, number of lymphocytes and relative expression of tumor-suppressor genes all of which showed seasonal changes remarkably.

4. Patient *A*'s Case

(1) Personal Background and Medical History

Patient *A* (32 years old, female) lost her mother and father by ovarian cancer in1996 and kidney cancer in 2002, respectively. Both her parents had operations and treatments with anticancer agents enduring side effects, but in vain. Particularly, her mother's painful appearance in the very last month left a strong impression on her.

When her father was two years of age, her grand mother on the father's side died. His stepmother showed favor only to her own children and was hard on the children of the former wife. After growing up, her father, together with half-brothers, ran a motor-mechanic factory, but he was dispirited surrounded by self-assertive stepmother and half-brothers. Patient *A*'s mother also worked in this factory, but she as well as her husband was patiently enduring cruel tone of her mother-in-law and brothers-in-law. Having overstrained herself under such family and work circumstances, she miscarried in the first and second pregnancies. After she gave births to patient A's brother, patient A and younger brother, she became pregnant again. But this time she was obliged to undergo an abortion induced by her mother-in-law.
In June 2006 patient *A*, for tumors of left mammary gland, had left pectoral-preserving mastectomy and axillary's lymph node dissection. Because patient *A*, based on her experiences to have lost her parents by cancer, does not believe that cancer is curable either with operations or with strong medicines, she refuses either anticancer agent or radiotherapy and is presently receiving treatment of SAT imagery therapy. At the starting of the therapy in January 2003, she wished as follows We heard her complaining as follows; "Because both my parents died of cancer, I am always tagged by anxiety of metastasis and reoccurrence of cancer no matter what I may do. Thus I am inclined to stay inside to my shell. Also, I think I am a natural worrier. I want to open my mind and become different. I want to change myself so that I may be satisfied even when I make a mistake."

(2) Summer Effect Revealed in Physiological Data

Overall mental condition of patient *A* was improved only through a few times of SAT imagery therapy. After one year of the therapy, both the immune force judged from the ratios of lymphocytes and neutrophils and the genetic defensive force judged from expression of tumor-suppressor genes have been improved, as is reported earlier[6]. In the summer of the second year (2004), the ratio of neutrophils increased remarkably, at the same time the ratio of

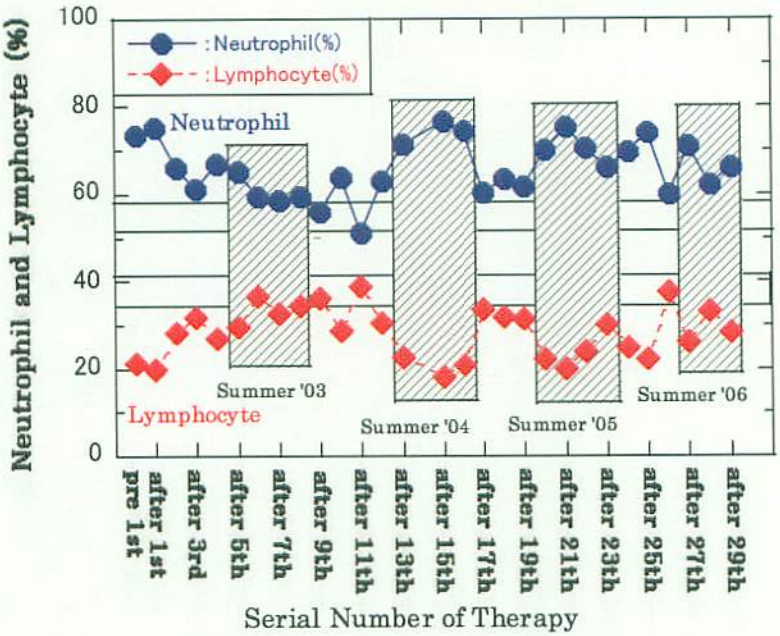


Figure 1. Ratio of Neutrophil and Lymphocyte (Patient A).

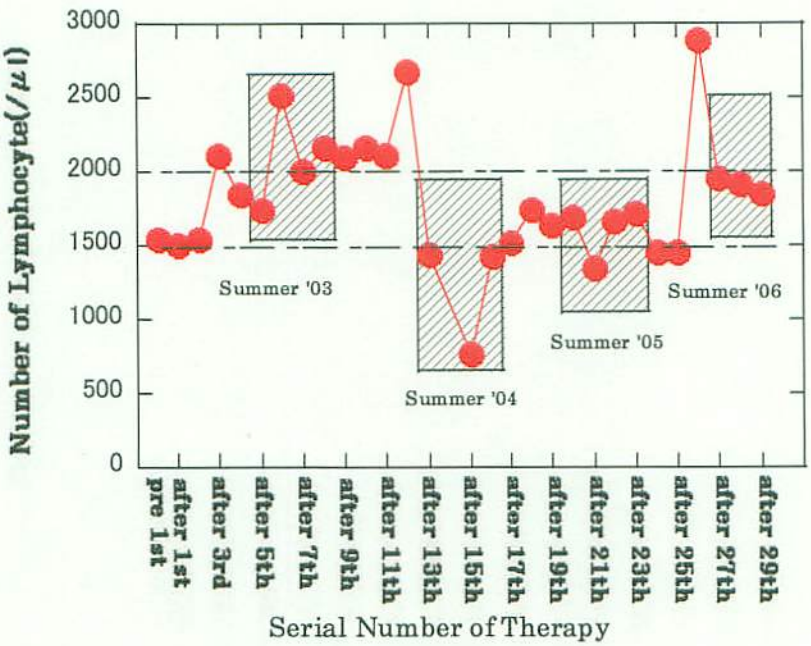


Figure 2. Number of Lymphocyte (Patient A).

lymphocytes decreased as shown in Figure 1. Especially, the number of lymphocytes showed a sharp decrease from favorable figure of over 2000/μl to 800/μl in a short period of time, as seen in Figure 2. The expression of tumor suppressor genes also fell down in the

same period as shown in Figure 3 & 4. Such a trend was particularly remarkable in the 15th therapy held in mid-August. As a result, this trend was continuously observed from the 13th therapy in June to the 16th one at the end of September. By analyzing these physiological data up to this summer, similar tendency was also observed in tumor-suppressor genes in the summer of 2003, but it is not conclusive.

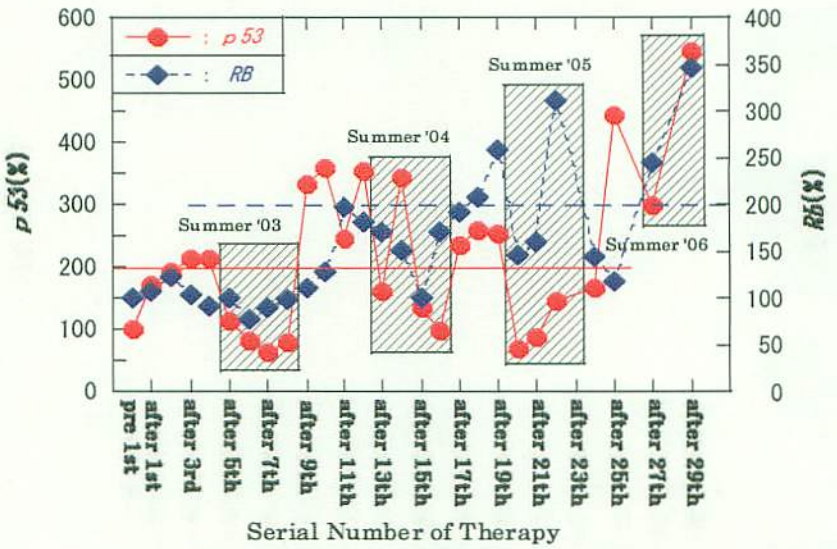


Figure 3. Relative expression of Tumor-suppressor Genes (*p53* & *RB* / Patient A).

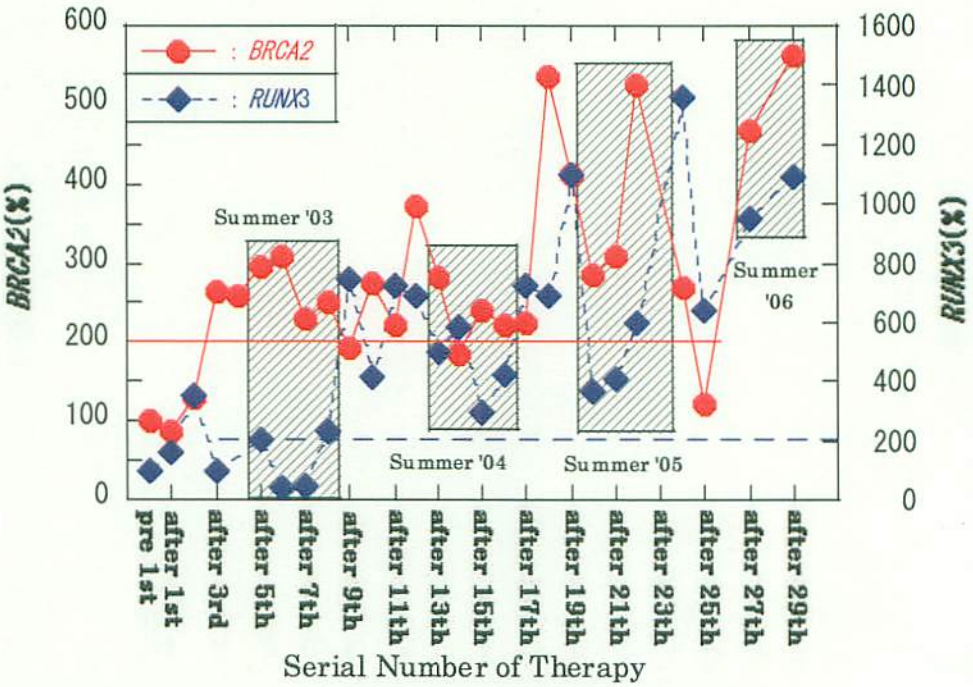


Figure 4. Relative expression of Tumor-suppressor Genes (*BRCA2* & *RUNX3* / Patient A).

When we asked her the existence of any stressful experience that could be connected with summer or heat, she reminded five experiences all of that have happened in summer season. ① She felt suffocative even in relatively mild summer in 2003, ② her mother died of cancer in June, ③ She had an unforgettable impression of her mother's painful look for the previous month to the death, ④ her father died of cancer in September, ⑤ although she got furious to her uncle when he talked on the forthcoming funeral of her father in August when her father was getting worse, she suppressed her fury. When we compare this with the case of patient *B* which we will introduce next, the length of the decrease in physiological data is in good agreement with that of their stressful summer images.

(3) Treatment for the Feeling of Vital Crisis in Heat

We started tackling patient *A*'s latent stress with suffocative feeling, that had been somatically expressed as a symptom under the key situation of summer. In the image in the womb derived from the fear (life-threatening) behind the suffocative feeling, life-threatening fear of both her and her mother were

found. In the womb, since patient *A* could not move freely, she struggled so confusedly that she felt hot and suffocating with her neck entangled with the navel cord. By tracing back her genealogy using the emotions of life-threatening fear and impatience in the womb, a image of a mother, six generations back on the mother's side, was reminded, where this mother was weeping with a sense of guilt and sorrow for she had had a miscarriage.

At first, the image of this mother of six generations back was dealt with. Patient *A* found out a ideal image, where the mother of seven generations back told to her daughter (six generations back) "It is OK only if you do whatever you can do." Then, in the subsequent image, the mother of six generations back gave birth to a baby all right because she had not attempted to hold anything heavy beyond her power during pregnancy. By the therapy using the growing image of this baby, the baby boy in her image grew up to be a considerate man establishing a harmonious household while working as a farmer.

What was common to images of mothers of six to seven generations back and patient *A* in the womb was found out to be the miscarriage of babies. Since patient *A*'s mother had miscarried two babies before she was born, patient *A* in the womb felt life-threatening fear and anxiousness that she also might be miscarried even when her mother had a slightest anxiety. She wondered, "If the first two babies had been born, was I ever born?" "Wasn't it good that I was born?" She felt sorry. At the same time she became aware that all the mother of seven generations back, six generations back, her own mother and herself had in common the way of life following the image script of trying to be accepted by working hard. When her mother had a slight anxiety, patient *A* amplified it and asked herself with a strong fear, "Am I not needed?" Also, she wondered, "Can't my mother work because of my being?" Since she felt that her mother shared the image script of trying to be accepted by working hard, she was afraid that her mother would not need her as an obstacle to her working. In order to be accepted by her mother therefore, patient *A* also worked hard following the same image script. It was the reason why her neck was entangled with the navel cord. Under these circumstances the heat was connected with the suffocative feeling in her mind, and she noticed that whenever it got hot suffocative feeling was regenerated.

As we made an ideal image into her ancestor's life, a new sense grew up in her that it was OK for her to be born. With this new sense, her mother's slight anxiety did not weigh on her mind any more. In the

image of her being in the womb as well, she did not need to struggle confusedly any more and therefore, she did not feel hot any longer and she was not any longer troubled by the suffocative feeling caused by the entangled navel cord. At the end of this therapy she said her impressions as follows; "I was troubled with the illusory fear that I had invented myself with confusion. I think I'm OK now, breathing deeply, taking hold of myself and saying to myself that I am OK. Now I see that no problem can hurt me. For me it is more than enough just to be living."

With this 16th therapy the number of lymphocytes was increased from below 1000/μl up to the temporarily targeted level of 1500/μl and thus a crisis of immune strength was avoided (Fig. 2). The ratios of lymphocytes and neutrophils took turns to the recovering tendency (Fig. 1). Regarding expression of tumor-suppressor genes also, sharply declining tendency of *p53* was stopped and both *RUNX3* and *RB* took turns to an increasing tendency.

(4) Treatment for Father's Death in September

Patient *A*'s physiological data showed a stable progress during the period from the autumn 2004 to the spring 2005. From the 20th therapy in May 2005, when her summer season was just starting, we re-started tackling her remaining stress images in order to prevent the re-descent of her physiological data. In the 20th therapy the images of her parents' deaths by cancer were taken up. First, we introduce our tackling of her father's death.

Patient *A*'s father, who died in September 2002, had suffered from kidney stone 20 years before. So, it is suggested that he had been under stressful situation since then. By asking her father's situation at her age of 15 or so, it turned out that he actually was troubled with stressful circumstances. He, together with two half-brothers, ran a motor-mechanic factory, but he was troubled with the human relationship with his stepmother and half-brothers both in the work place and at home. One of his half-brothers had initially wanted to be a cook, but he was forced to give up his dream by his mother and he had no choice but to work in the factory. As a result, he became an alcoholic addiction and divorced his wife. His daughter also became mentally unstable to cause big troubles. The wages which this stepmother kept paying even to such a half-brother, who was unable to work, was a big financial difficulty for their family-owned

motor-mechanic factory. Nevertheless, patient *A*'s father could not start discussing this problem with the self-assertive stepmother, and had nothing to do but put up with it.

A new ideal image of stepmother was introduced, where she equally loves every brother and permitted elder half-brother's desire to be a cook. Consequently, his half-brothers and family environment were improved in her image; now Patient *A*'s father was able to discuss important matters with her stepmother. She felt that her father, under such new circumstances, might suffered neither from kidney stone nor cancer 20 years later. When she phone-called to her father in the image, she heard him say, "Hi, why don't you come home once in a while?" After that, the sense of emptiness she had been feeling in September has vanished.

Patient *A* noticed that the sense of emptiness she had experienced before in September had been caused by her sense of powerlessness both to heal her father's loneliness due to his early loss of the real mother and to act as a substitute for her mother to console her father who had lost his wife by cancer. Since she noticed that she had wished to be accepted by performing beyond her ability, she came to positively judge the fact that she had been close with her father as his daughter enduring her pleasure. Consequently, she felt that she had done as much as she could.

(5) Treatment for Mother's Death in June

The mother's painful appearance for the last one month just before death was intensely imprinted in patient *A*'s mind. Thus, in every May she had felt painful feeling and occasionally had tympanitis by complicating her cold. She also had been mentally affected by the worsened physical condition of a female patient with cancer who had a facial resemblance to her mother. In the successive 20th and 21st therapy conducted in May 2005, we tackled her stress connected with her mother's death.

While her mother was in a terminal stage of cancer, patient *A* was barely aware if she was awake or dormant. By dealing with her anxiety in those days, she reminded the relationship between her step-grandmother and her mother. Although the step-grandmother had praised her daughter-in-law (a wife of her own son) in front of patient *A*'s mother, she had never praised patient *A*'s mother, who had

strongly wished to be accepted by her mother-in-law. She was also shocked by the words of her mother-in-law, "I never expect you and your husband to look after me." Actually, patient *A*'s mother had a similar experience in her childhood. Her elder sister was so excellent that her mother often praised her. Patient *A*'s grandmother loved patient *A*'s mother, but this grandmother did not praise patient *A*'s mother at all. So, patient *A*'s mother grew up lacking in confidence. Patient *A*'s mother, thus having grown up observing the relations between her mother and sister, felt so sad that she after marriage became very sensitive about her relations with the mother-in-law. She was so eager to be praised by her mother-in-law. Unfortunately however, her mother-in-law praised another daughter-in-law but her, and it upset her very much. As a matter of fact, patient *A*'s stepgrandmother also in her childhood lost her mother and grew up lacking in maternal love. This fact had strongly influenced her character.

At this stage of therapy we introduced two new ideal images. The first one is the image in which patient *A*'s grandmother on the mother's side praised all the children equally. The second one is the image in which the real mother of the stepgrandmother on the father's side lived long and her daughter grew up under an affectionate circumstances. Starting with these two new images, the problems regarding human relations in patient *A*'s image were all solved. Patient *A*'s mother, having grown up with her mother's praise, became confident, got free from trivial criticism from others, accumulated no stress and accordingly avoided suffering from cancer. Her mother, now in sixties, is still healthy in her image. As in the case of her father's image, when she phone-called to her mother in the image, she had a pleasant conversation such as "I'm enjoying myself just as usual" and "So am I." This conversation with the imaginary mother made her so happy that the oppressiveness she used to have in June has disappeared.

Having looked back at the therapy, patient *A* expressed her past feelings of oppressiveness in June as follows; "I had a difficulty to accept my mother's death. I had a faint feeling of being guilty for my mother's death. It was needed to look for the criminals to put the blame on somebody else in order not to distress myself. However, I hated myself looking for the criminals. Through the therapy I began to feel that my mother also had had a good time. She had lived her natural life, and must have been happy in her own way. By thinking like this, I have realized that my feeling of oppressiveness in June was gone."

Patient *A* had regarded her stepgrandmother on the father's side as the cause of the stress for her parents. Through the therapy, however, she found out an unexpected feeling in herself. She reminded that in her childhood this stepgrandmother had always protected her and taken her out for fun to various spots in behalf of her parents who had been too busy for their works to take care of her. After her mother got ill, however, she heard of the treatment that her mother had received from this stepgrandmother. As a consequence, she turned to consider this stepgrandmother as the criminal. In her mind, the image of this stepgrandmother changed from "the person I love" to "the person I should not love." She was forced to deny herself because she had felt favorably toward this stepgrandmother. According to her, it was the first time that she spoke "I love my grandmother." Until then, she had turned her eyes only toward sad matters. After she accepted it as a fact that her mother also had a happy time, she realized that it was not necessary to fix her position one-sidedly, to love or not to love the stepgrandmother.

Since patient *A* realized this attitude, as regards the female patient who had a facial resemblance to her mother mentioned above, she has changed to less worry about that female patient's death because she realized that her happy feeling with the patient might remain even if the patient would die.

Having actively tackled the images transmitted from ancestors in addition to the re-growing imagery for patient *A* and her parents, we improved her stressful images connected with summer season. As a result, by comparing the physiological data in summer of 2005 and 2006 with those of 2004, we have successfully controlled the anticipated changes (Fig. 1, 2, 3 and 4). Actually the change is remarkable when we see the number of lymphocytes (Fig. 2). In summer 2006 further improvement has been observed compared with summer 2005. The degree of expression of tumor-suppressor genes as a whole showed an increasing trend. Both *p53* and *RB* fell down to below 200% in the summer 2005, but in the summer 2006 all the four kinds including the above two maintained over 200% in the degree of expression. After the 29th therapy remarkable expression has been observed such as 550% of *p53*, 350% of *RB*, 560% of *BRCA2* and 1100% of *RUNX3*. The number of lymphocytes in the summer 2006 was maintained around 2000(/μl). We had been conducting the SAT Retroactive Evolution Imagery Therapy for patient *A* since the 27th therapy, then its remarkable effects were observed particularly in the change of tumor-suppressor genes.

5. Patient *B*'s Case

(1) Personal Background and Medical History

Patient *B* (46 years old, female) was born as the second daughter of two sisters. Her father was a safety-first and quiet man and her mother was an emotional and apt to condemn others. At the end of July 2001 cancer was discovered in her left breast. Since then, she underwent breast-conserving lumpectomy in August, three times of chemotherapy, 25 times of radiotherapy during September and hormone therapy by irradiation to the ovary. Listening to the lecture on SAT imagery therapy, she started in February 2003.

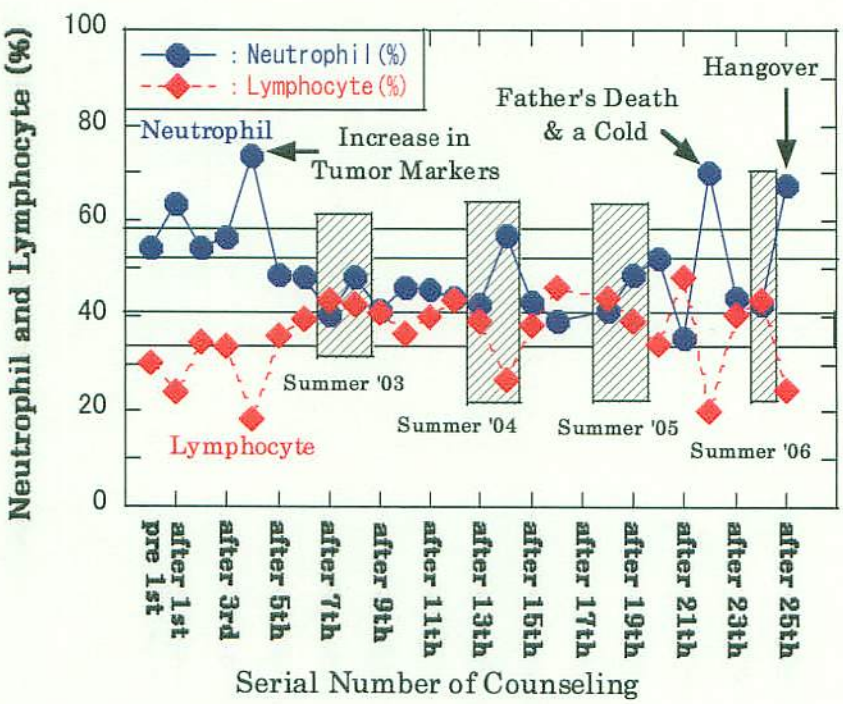
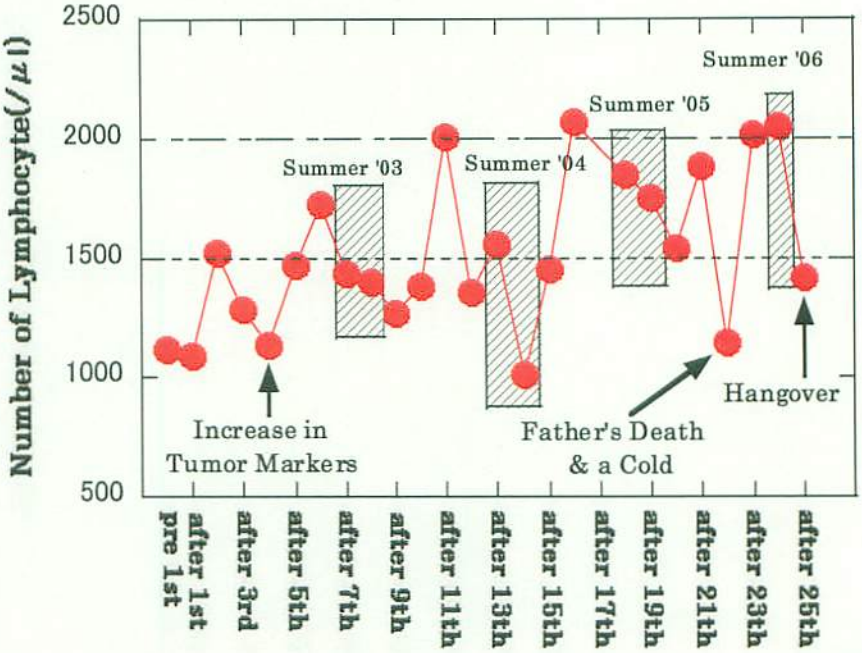


Figure 5. Ratio of Neutrophil and Lymphocyte (Patient B).

(2) Summer Seasonal Effects in the Case of Patient *B*

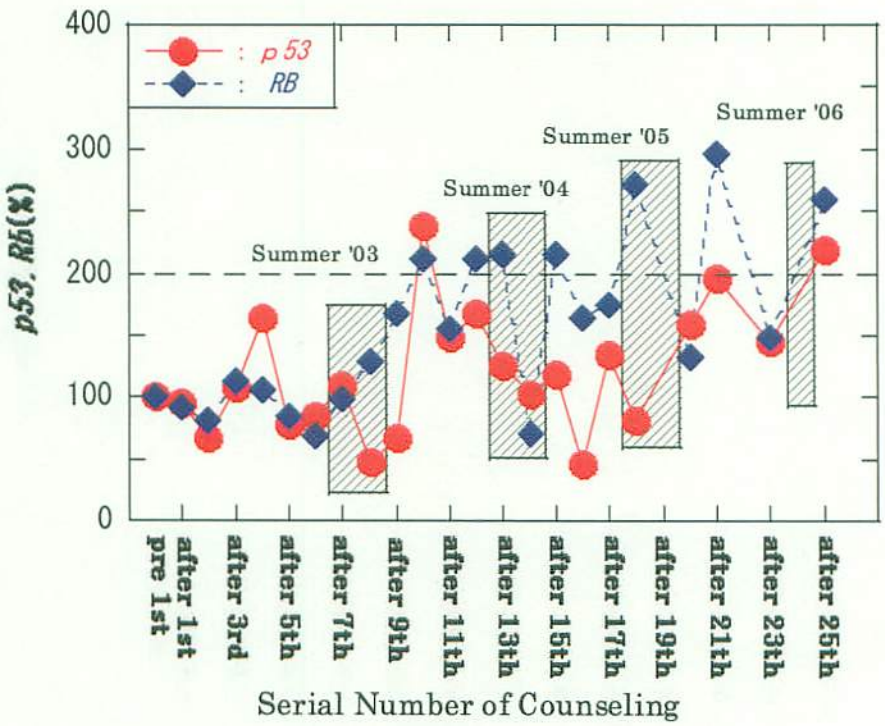
As is in the case of patient *A*, three to four times of therapy has improved patient *B*'s psychological scales, that are signs of being conscious of stress feeling, and this condition has continued to the end of her therapy[3]. In her case, myelosuppression was remarkable as a result of treatments by anticancer agents and radiation. The number of white blood cells often showed a small figure remaining between 3000/μl and 5000/μl, which was within the standard though. Thus, before the intervention of SAT imagery therapy, the number of lymphocytes stayed as few as 1121/μl although the ratio of lymphocytes was 30.3%. By the therapy of over ten times during a year and half, the number of lymphocytes have increased to around 1500/μl and both the ratio of lymphocytes and neutrophils have been improved. The tumor-suppressor genes except for *p53* were kept expressed condition of over 200%.

All the physiological data taken after 14th therapy, which was held in August 2004, showed a trend for the worse just like patient *A*'s case. The ratio of neutrophils, which had been stable between 40 to 45%, went up to 57.2%. The ratio of lymphocytes, which had been around 35 to 40%, fell down to 26.7% (Fig. 5). At the same time as shown in Figure 6, the number of lymphocytes fell down to 1015/μl, the smallest value ever before. The degree of expression of four kinds of tumor-suppressor genes, which had been showing a favorable tendency, fell down sharply (Fig. 7, 8). Although we asked patient *B* if she had any experiences or physiological responses in the summer 2004 which are to cause these remarkably negative effects in physiological data, she had no idea. On the contrary, in the next therapy she talked to us her impression on the latest trip to abroad. She said as follows; "I'm not ill any longer. I'm OK for I am satisfied deep in my mind."



Serial Number of Counseling

Figure 6. Number of Lymphocyte (Patient B).



Serial Number of Counseling

Figure 7. Relative expression of Tumor-suppressor Genes(*p53* & *RB* / Patient B).

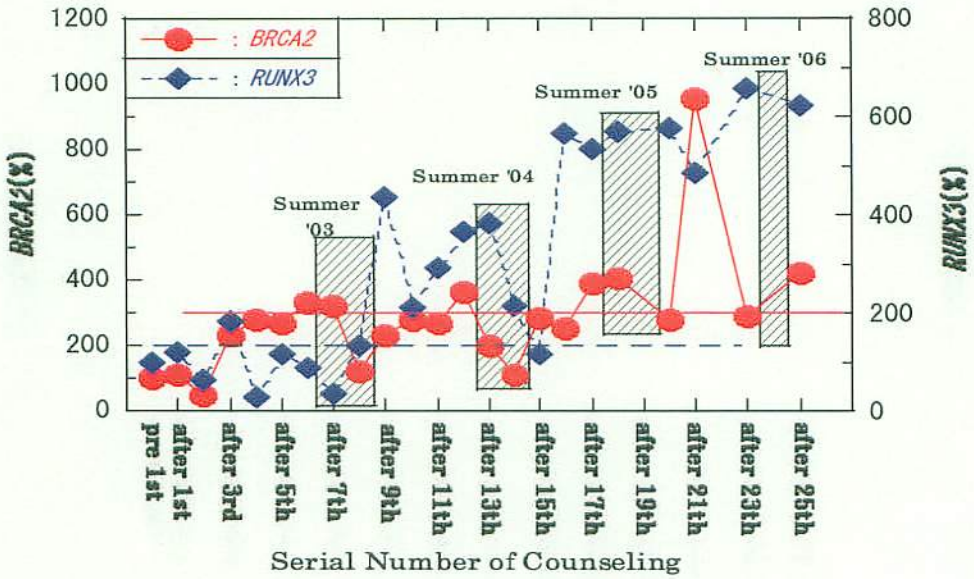


Figure 8. Relative expression of Tumor-suppressor Genes(*BRCA2* & *RUNX3* / Patient B).

(3) Diagnosis and Second Opinion in summer season

At the 18th therapy in June 2005, based on the experience in the case of patient *A*, we started treatment assuming summer seasonal effects. By asking her again the existence of any summer seasonal trauma, severe trauma was found out.

On the next day of being told of her cancer in her left breast in July 2001, patient *B* visited a famous female doctor in the suburbs of Tokyo metropolitan area to obtain a second opinion. In the explanation prior to the CT scanning, this female doctor said, "Your days are 3 months if shadows are found by CT scanning," which was quite different from the words told the day before by the first doctor; "You are all right." Fortunately, no shadow was found in CT scanning. Nevertheless, the female doctor's words impressed her a very strong feeling of fear, as she said, "That word frightens me even now." Later in early August she underwent the operation. At the end of August, the results of the tissue test was told not to be malignant. She said, "For five weeks from the end of July till the end of August, I had a mentally hard time for the terror of death caused by that female doctor's words." She expressed her condition in those days

in such other way, as "I was mentally abnormal losing all my senses including stiffness and pain in my body which I used to feel generally". This suggests that she was in a extreme fear of death.
Patient *B* had been supposing it to be suspicious as a cause of her cancer that in her youth she enjoyed a fashion in light clothes and consequently had let her body get cold. Her inclination to such a fashion had stemmed from her mother's words in such an authoritative tone as "Never let your body get cold in such a light fashion."

As the ideal scene 1, we introduced the image of her avoiding the above reported five weeks in the ideal circumstances. We started with the image in which her mother had taught her affectionately and quietly how bad the light dressing would be for her health. Then in the new image she got into a habit of wearing one thing on top of another and not let her body get cold any longer even after coming of age. Although patient *B* actively works as an interpreter now, she used to be engaged in translation work at home before. She felt physically stressed because she did not like working at home, but she kept working as a translator due to her lack of confidence and fear of becoming an interpreter. In the newly introduced image, however, she had started working as an interpreter earlier and had no stress because she had grown up with the feeling of mother's constant love and obtained the self-confidence. If she had further continued this way of living, she would have got into a habit of wearing several layers of clothing even when she had actually worked in the air-conditioned room in the summer two years before her cancer was found out. The accumulation of all these images made it possible for her to feel that she must have avoided cancer.

As the ideal scene 2, following the scene 1 where the problem was resolved by externalizing the origin, we introduced the next image where, by internalizing the origin, patient *B* avoid the abnormal five weeks of fear by herself. We started with the image in her youth in which she would pay attention neither to her mother's words nor to speaking attitude but would change the subject of talk to something pleasant for herself. Then, her mother's look and speaking attitude would have changed, and an aggressive atmosphere would have disappeared, then she and her mother would have felt closer to each other. As a consequence of this ideal image, patient *B* would have sufficiently felt the meaning of her existence, patient *B* was able to change her job to an interpreter on much earlier stage and her body was freed from stress. Then, to that female doctor's second opinion, she would have felt "Is this true? I wonder if this

doctor is overreacting." Then her shock was softened and her sense of spending ordinary hot summer has returned.

Getting back her sense of ease, as a matter of fact, patient *B* realized that her real problem was her perfectionism. She explained that since she had a strong belief such as "It should be nothing but a good cancer", she accepted various stimuli as much more fearful than as it is. By realizing this tendency of her own, patient *B* felt relaxed and was able to get rid of perfectionism. The image of the summer 2001 naturally changed to those, where environmental situation came in view of her, she could feel the heat spending pleasurable summer days chatting with her husband. Being asked about the foreseeing image of soon coming summer of 2005, she replied to us with a smile, "Just ordinary summer is coming, isn't it?" Since she no longer went after the perfection, patient *B* had felt relief.

By dealing with stressful summer images of patient *B*, we have successfully suppressed the getting worse of her physiological data in summer 2005 in comparison with that in summer 2004. In addition, in summer 2006, no influence was observed on immune strength, that is the number of lymphocytes was 2050 /μl, the ratio of neutrophils and lymphocytes are 43% and 44%, respectively. With regard to tumor-suppressor genes, all the four genes showed the degree of expression over 200% as 220% for *p53*, 260% for *RB*, 420% for *BRCA2* and 620% for *RUNX3*.

6. Discussion

Through a series of SAT imagery therapy for over four years for two patients with cancer, we have solved latent stressful images showing no sign on the psychological scales. That was enabled by reading signs in the changes of blood data, correlation of which between stress had been scientifically proved.

Immune force and genetic defensive force showed rising trends in both two patients throughout four years. Except for immediately after the beginning of SAT imagery therapy, most of all the cases in which these data fell down have been explained in connection with such stressful images as; (1) summer seasonal effects in both cases of patient *A* and *B*, (2) mental shock by an increase in tumor marker in case of patient *B* at the 4th therapy[5], (3) mental shock immediately after the death of her father and bad

physical condition for a cold in case of patient *B* at the 22nd therapy and (4) a serious hangover in case of patient *B* at the 25th therapy. Patient *B*'s mental shock at the 4th therapy has been caused by the increment of *BCA225*, one of the tumor markers for breast cancer assessed in the blood sample after the 3rd therapy, to the value slightly over the standard region. However, *BCA225* value has returned back to the value within the standard region after the 4th therapy. This influence was observed on the changes of both immune strength and *RUNX3* after the 4th therapy. On the contrary, since she knew the normalized value at the beginning of the 5th therapy, these physiological data after the 5th therapy also restored. This heavy mental stress of her in the 3rd therapy was strongly suppressed because she mentioned nothing concerning her shock of knowing the increment of *BCA225*. Since she considered "The reoccurrence of breast cancer means being hopeless," there must have existed the life-threatening fear behind it. She only expressed her emotion as a feeling of joy very heartily and loudly, knowing the normalized data at the beginning of the 5th therapy. This tells us the heaviness of her mental shock by the increase of tumor marker which might sign the reoccurrence of breast cancer. This strongly suppressed latent stress, in consequence, emerged on physiological data. Therefore, the latent stress that is not expressed in psychological data is expressed in physiological data like immune strength and genetic defensive force, it is possible for us to grasp it. By this research, SAT imagery therapy was proved to have the ability of improving the physiological data. In addition, it was also proved that the influence of seasonal effects upon physiological data was as remarkable as the above stated three factors listed from (2) to (4). This can be understood from the fact that the seasonal stress of patient *A* and *B* has originated from the image memories directly connected with the death of their parents and their own.

All the four types of tumor suppressor genes (*p53*、*RB*、*BRCA2*、*RUNX3*) of the both patients were expressed over 200% in 2006, and the improved state of their immune strength also has been maintained except for the above stated summer seasons when stressful affairs occurred to them. This period in 2006 coincides with that where we introduced the newly developed SAT evolution retrospective imagery therapy. When we review the progress of the therapy for these patients from the viewpoint of the development of SAT therapy techniques, it spread over the period during which we rapidly expanded the scope of objects of treatment to (1) the stress images of a few generations before, (2) the stress images intergenerationally transmitted from ancestors by going back to the past in the unit of generation, (3) the stress images transmitted from ancestors by going back to the past in the unit of eras and (4) the stress

images transmitted from ancestors by going back to the past in the unit of evolution. Because cancer is a disease with non-self cells caused by the change of gene, when we cope with cancer by means of expressing tumor-suppressor genes, the physiological data viewed from such a perspective strongly suggests that it is effective to treat the intergenerationally transmitted stressful image memories particularly with evolution retrospective imagery skill.

Psychosomatic diseases including cancer stem from a personality of alexithymia which suppresses recognizing psychic symptoms. When we tackle such clients, psychological scales have a tendency to be effective only at the initial stages of the therapies. In order to keep treating their latent stress images in the following stages, therefore, it is essential to (1) pick out the stress in their physiological data which are free from the influence of alexithymia, (2) find out the origin of intergenerationally transmitted emotion by letting them go back to the past from the present stress images to the ones of the past generations via their image in the womb and (3) support their self-growth through changing the image of the origin of their stress[15].

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SAT Self-Image Script Changing Therapy for Psychogenic Visual Disturbance

Noriko Higuchi, Tsunetsugu Munakata, and Sayuri Hashimoto

Department of Human Care Science

Graduate School of Comprehensive Human Sciences

University of Tsukuba

Correspondence:

n.higuchi@jcom.home.ne.jp, hasimoto@taiiku.tsukuba.ac.jp

munakata@taiiku.tsukuba.ac.jp

ABSTRACT

Psychogenic Visual Disturbance (PVD) can be seen as one of the psychosomatic illnesses that affect children. Through our own psychosomatic support for children with PVD, we confirmed the existence of memory with negative image transferred from the preceding generation as the fundamental problem behind PVD. In this paper, we try to (i) present a new intervention model using the self-image script changing therapy for children with PVD, their parents, grand parents, and the preceding generation; and (ii) examine the causes for controlling recovery based both on the qualitative data on convalescence obtained from the patients' experiences and narratives and also on other data showing the changes in visual performance and psychological characteristics.

A typical single case research was qualitatively reported. To ensure the reliability of the psychological transformation process, and the change of the physical symptom of client and her family by the SAT intervention (ie, changing of the self-image script), the qualitative and quantitative data were triangulated. Results showed that the SAT therapy was effective in changing the self-image script of children with PVD, to enact improved visual functioning.

Keywords: self-image script, psychogenic visual disturbance, relearning, reward system

1. Introduction

Psychogenic visual disturbance (PVD) cause abnormal visual performance. For many years its cause was unknown, as was the explanation for the resulting poor vision. The incidence of PVD in pediatric ophthalmology patients is reported to be approximately 1% (Yokoyama, 1999). Recent development of imaging diagnostic technology has enabled the identification of reduced blood flow to the vision association area as a cause of PVD (Okuyama, Kawakatsu, Wada & Komatani, 2002).

Somatization disorders such as those seen in children with PVD, arise as a result of stress revealing itself as a functional disorder of the body or a transformation of the conscious mind, without the patient being aware of it. Such disorders are often seen in children whose body and mind have not properly differentiated. These children are said to have the tendency to relieve stress by converting it to a physical symptom rather than finding a solution psychologically (Bass, 1993). It is widely known that such psychological characteristics accumulate stress, easily cause worry and anxiety, and trigger psychobiological reactions (ie, interactive reactions involving the autonomous nervous system, endocrine system and the immune system) due to suppression of feelings and desires that are not expressed (Tanaka, 1998). Therefore, it was thought that the physiological characteristic of stress build-up may influence the outset of PVD.

Van den Bergh et al. (2005a,b) reported their fetal programming hypothesis that the degree of anxiety of the mother in the early half of the gestation period was likely to hinder brain development of the baby. They stated that when the mother's degree of anxiety is high during this period, the mothers' cortisol may have effect on the baby though the placenta and may affect development of the HPA system, limbic system, and prefrontal cortex.

Additionally, the intergenerational transfer of attachment disturbance (Watanabe, 1998) is a widely known phenomenon. For instance, when people who lived with trauma in childhood left unsolved and/or twisted attachment, they would unconsciously wound their own children and duplicate the conflict that they had with their parents.

Conventionally, PVD psychotherapies used approaches that tried to reach memories and experiences of psychological trauma in early childhood. Through our own psychosomatic support practice for children with PVD,

we confirmed the existence of negative image memories transferred from one's preceding generation as the fundamental problem behind one's PVD (Higuchi, 2005). In order to solve the fundamental problems of pediatric psychosomatic disorder like PVD, therefore, it seems urgently required to develop a new means to support the parents and their preceding generation for solving their own fundamental problems. Children with PVD have such psychological characteristics as high self-repression, low self-esteem and low recognition of emotional support, and high anxiety tendency (Higuchi, 2004). To cope with these tendencies, we have extended mental support in a form of psychological intervention to the patients themselves and guidance to the patients' parents for their environmental adjustment. Through our psychosomatic support practice for children with PVD, we have come to know that parents' distressful psychological characteristics and their high anxiety tendency would easily worsen the environment for children and cause the recurrence of disorder because it is important for children's healthy mental development if, in their middle childhood to early puberty adolescence life-stages, they may have an image script that they are recognized and loved unconditionally by parents (Munakata, 2006).

Most of the approaches toward the treatment of PVD reported so far have been limited to mental education and advice (Abe 1987; Okamoto, 1984). There have seen few reports that examined active psychological intervention for PVD patients and their parents. In this paper we try to (i) present a new intervention model using the self-image script changing therapy for children with PVD, their parents and grand parents, the preceding generation, and (ii) examine the causes for controlling recovery based both on the qualitative data on convalescence obtained from the patients' experiences, and on other data showing changes in their visual performance and psychological characteristics.

2. SAT Image Script Changing Therapy

Self-Image Script is different from the concept of schemata (Markus, 1997) which seems to carry the implication of an intellectual framework. Rather it is the concept of script developed by Munakata (2006) in which the nature of elapsed time, nature as a causal story, and sensations are involved. In other words, it is the script of the original form of the self. Theoretically speaking, everyman interprets himself, holds a pattern to understand himself in conformity with the expected value obtained from his past experiences. SAT therapy is an image therapy which derives from this theory and utilizes Self-Image Script Changing Therapy as its major technique. This theory hypothesizes that the troubles the client experienced in the past cause the flashback in the current

problems the client is now consciously faced with. By identifying the past negative experience, it aims to make the client find out a positive meaning in the negative image attached to the negative experience. To do so it requires the client to make up a positive image script through various means such as re-leaming, re-narrating, re-imaging, re-acting and body contact. Its final goal is to make the client obtain a new self-image based on the said newly formed image script (Munakata, 2005).

Embryologically, human beings have both new and old brains. Conventional cognitive behavior therapy that is aimed at the transformation of the skewness of the recognition is directed mainly to neocortex (Munakata, 2006). SAT Self Image Script Changing Therapy tries to deploy effectual mental support on a ground of the triune concept of the human brain advocated by P. D. MacLean (MacLean, 1982). We attached importance to ensuring the client's sense of security mainly with the adjustment of environment. We next promoted the client to leam erasing such negative emotion as anxiety, fear, sense of helplessness by means of affection signals and body contacts. We further encouraged the client to promote pleasure emotion such as comfort, safety and sense of relief. In other words, conducted was the intervention to approach both protoreptilian and paleomammalian brains. Finally then, we tried to make client realize how to lead a life so that s/he may feel own essence, satisfaction and significance. We extended our supports so that the client may think practically and go forward to that direction. In other words again, conducted was the intervention to approach neomammalian brain.

3. Method

Design

In this study, a typical single case was qualitatively reported. Our conversations in the counseling session were taped as an audio record and these were matched with the patient's medical record . Ethic consideration was carried out as follows: We explained the purpose about the study to a child and the parent and obtained their consent to participate. In addition, we considered privacy protection.

Subject

The patients were diagnosed with PVD at *A* university hospital in the metropolitan area. One case intervention

for three generations with SAT self-image script changing therapy entered into the study.

Data collection and Analysis

To ensure reliability with the psychological transformation process and the change of the physical symptom of client and her family by the SAT intervention (ie, changing of the self-image script), the qualitative and the quantitative data were triangulated.

Assessment of Visual function

Visual Acuity was tested with Landolt's C chart.. The testing distance is 5 m. The children have to answer the direction corresponding to the C optotype which the examiner pointed. For all cases, the acuity was tested in approximately logarithmic steps from 0.1 to 1.0 and 1.2. The visual acuity was defined as the line at which 3/5 of the optotypes were correctly identified.

Assessment of psychological characteristics of children

(1) *State-trait anxiety inventory for children (STAIC; Soga, 1983)*: State anxiety indicated a "temporary emotional state that may change depending on the conditions being experienced by the subject", Spielberger (1966) created STAI and then a "State-transition anxiety inventory for children" (STAIC). It consists of 20 items such as state and trait anxiety. Each item is scored between one and three with three being the highest level of anxiety.

(2) *Self-esteem for children (Yoshiba & Munakata, 1997)*: This scale is used to measure the degree of self-satisfaction or how highly the subject regards him- or herself. It consists of ten items with values of 0 to 10 assigned to each item. A higher score indicated higher self-esteem.

(3) *Self-repression for children (Yoshiba & Munakata, 1997)*: The self-repression scale is used to measure the behavioral trait indicating the patient's tendency to suppress his or her feelings or thoughts to avoid being disliked by others, or to avoid making things worse. This scale consists of 10 items, and a higher score indicated

higher self-repression.

(4) *Interpersonal dependency for children (Yoshiba & Munakata, 1997):* This scale is used to measure how much the child expects others to take care of him or her and level of emotional dependency. This scale measures the trait whereby those behaviors that allow the subject to cope with the expectations of others are adopted according to other's evaluations, as well as that trait whereby unrealistic expectations continue to be held, even for an unreliable person. The scale consists of 10 items, and a higher score indicated higher interpersonal dependency.

(5) *Emotional support network for children (Yoshiba & Munakata, 1997):* This scale focuses on the emotional support provided by the various social support networks. It measures how much a child is aware that there are "people around you who support you emotionally and mentally." The scale consists of ten items with a total score of ten points.

Assessment of psychological characteristics of parents

(1) *State-trait anxiety inventory (STAI; Spielberger, 1966):* A state anxiety indicated a "temporary emotional state that may change depending on the conditions being experienced by the subject". It consists of 20 items such as state and trait anxiety.

(2) *Self-rating Depression Scale (SDS, Zung, 1965):* The SDS scale, comprising 20 items , was used to measure social depression tendencies. Scores over 40 indicated depression tendencies.

(3) *Self-esteem Scale (Developed by Rosenberg, 1965 ; Japanese version developed by Munakata, 1987):* This scale was used to measure degree of self-satisfaction or self- regard.

(4) *Self-repression (Munakata, 1996):* This scale was used to measure repression tendency one's feelings or thoughts so as to maintain pleasant relationships

(5) *Interpersonal dependency Inventory (IDI, McDonald-Scott, 1988):* This scale was used to measure degree of emotional dependency.

(6) *Problem-solving behavior Scale (Munakata, 1996):* This scale was used to measure the tendency toward effective and positive problem-solving.

A PVD case treated by Self-Image Script Changing Therapy

Case: 8 year old. Girl (*A*)

Family: Mother (*MA*, 40 years old, older brother (junior high school student, 12 years old. Her parents were divorced several years ago.

Medical history: Asthma (1.5 years old)

Present illness history: April 200X, she was referred to our university hospital for detail medical examination by her home doctor; she was found to have abnormal visual acuity at the school health screening.

At initial ophthalmological examination: *A* demonstrated abnormal visual acuity

V.D.=0.02(0.06) V.S.=0.02(0.07)

Neurophthalmological examination: Visual evoked Pattern: normal, CT: normal

Familial medical history: *MA* was diagnosed of depression since 4 years ago.

Circumstances before the counseling

MA, having suffered from depressive disorder for several years, had difficulty even just to come to the clinic as a chaperon for *A*. Actually she repeatedly cancelled and changed the appointment for *A*. On one occasion when she wanted to change our appointment for *A*, one of the authors of the study had an opportunity to talk with *MA* over the phone, when her serious mental pain was noted. This phone conversation prompted *MA* to visit our clinic.

The first interview with *A*

A conveyed to us an impression that she was pretty mature for her actual age. She looked grim, had no sign of smile and hardly talked. So we tried to keep up with her pace. We asked *A* if she might come to the clinic

from time to time and draw pictures or something, and she nodded saying "Well, I'll try."

The first interview with *MA*

The first interview with *MA* was conducted half a year after the introduction had been made to us from her doctor. She talked on her agonizing situation quite straight:. Her mother (*GMA*) was divorced from *MA*'s biological father in her childhood . . . . *GMA* got remarried, and then she became abused constantly by stepfather . . . . Her real father who she had loved so much for his affectionateness passed away for drinking too much soon after the divorce . . . . Her stepfather did not extend the financial support to her brother who suffered from an intractable disease .... Distressed by his illness, he committed suicide . . . . *MA* got married in the teeth of her parental opposition, but later got divorced .... She had a difficulty to deal with *A* . . . . She felt herself maneuvered by *GMA* .... "I should better not exist in this world. I should better die anyway, shouldn't I?" said *A* to her. It was exactly what *MA* had in mind in her childhood. *MA* said that she was uneasy wondering if she herself repeated what *GMA* had done to her. "I have been so much depressed" *MA* added, "that I was hardly able to take care of my children. Even when I was rearing *A* when she was a baby, I felt she was so hard to deal with."

We did not conduct the actual counseling to *MA* on the first day because she showed no intention to change herself based on the self-trust demand, the driving force to receive counseling. For successful mental support to the case of depression it is vital to understand the supporters to the patient. So, we put the priority on the intervention to *GMA*.

Interview with *GMA*

We requested *GMA* to cooperate with us at all costs in our efforts for healing *MA* because warm support from those people around *A* is essential. Fortunately *GMA* understood our intention, and accepted to receive our counseling. According to her own life story, *GMA* , since her childhood, had been behaving independently without relying on her parents and showing any attitude like a spoilt child as she had observed the sufferings that her mother had experienced under the stepmother. *GMA* talked, "under some uneasiness, though, I always try doing my best not to give anything up telling myself that nobody but I can help myself." We started with

letting her identify that she would grow very much anxious to be abandoned if she changed her independent way of living. Once such a feeling was identified, she was asked to recollect the image of her being in the womb, and then to clarify the feeling she had when she had been in the womb and its meaning. After that, we tried to let her convert her negative life story to a positive self-image script. *GMA* invented an image script as if her mother had been raised and spoiled by her real mother. Based on the above work, she was asked to form up an image of her rebirth and her spoiled childhood. Tears formed in her eyes and she talked, "If I had been raised by the parents with such an image like this, I would have been able to make complaints and depend on others with an open mind." Finally she realized that she might have depended too much upon *MA*, her daughter, as a quid pro for having refused clinging to her parents. She made up her mind just to keep watching and going along with *MA*.

Stages of SAT therapy to *MA* (from the second to the fourth interview)

MA became aware of changes in her mother after our conducting SAT therapy to *GMA*. *MA* showed improvement in her commitment to *A* sitting close to her daughter. Also, she began having positive mind to change herself so that she might lead a happy life together with her children. In communication with *GMA*, her mother, she still had a difficulty to divulge what she really thought, and she made it her task to speak out what she felt overcoming the difficulty. Thus, we confirmed her motive for changing herself based on the self-trust demands. On the other hand, she was seized with the fear to be abandoned by *GMA* and thrown into a panic when she dared to tell what she really felt. To start our therapy with this feeling of hers we requested her to recollect the image of her fetal days, how she found out the womb and how she felt there. She said, "It is quite dark and cold. Navel string, winding itself around me so tightly, chokes me." We identified her appeal with such feelings as despair, misery and fear to be abandoned. Using the role-playing technique mixed with body contact we helped her try and picture *GMA* clinging to her mother and *GMA*'s father surviving until *GMA* had grown up to watch over the family. And then, we prompted *MA* to picture the image of her own rebirth, of her clinging to parents in childhood and of her growing-up peacefully in the family. "If I had been brought up like this, . . ." said *MA* and tears formed in her eyes. People tend to unconsciously take in the image of the dead and confuse it with their own personalities. Therefore, applying the technique of imaging the reunion with the dead in the empty chair work, we made her engage in a dialogue with her brother who had committed suicide taking his illness seriously to heart. We asked her, "How does your brother look like?" and she replied, "He

looks like worrying about me." Then we said to her, "If there is anything you want to talk to him, you can talk it now." She conveyed to him with tears in her eyes, "I'm so sorry. I should have been more affectionate to you and listened to you more closely, but . . . ." We asked her to continue the dialogue with her brother with the empty chair technique for a while. We successfully established in her such self-image to be able to listen to her brother and to be affectionate to him. And then *MA* told us that her brother now looked like forgiving her and watching her over. Incidentally, *A* came to perceive that her task was to become a person that could properly communicate and behave when needed. Once she established the self-image as if she had grown up to achieve the task, communicate quite frankly with her brother and understood each other, she made the decision to convey to her mother how she felt. *MA* became more active in expressing her heart than before.

The stage of the mother's self-change: The fifth interview

MA told us that *A*, who had not been intimate with her, came to stay at her side saying, "I love you so much, Mom." After that, we confirmed improvement of *A*'s eyesight. Then we heard from *MA* that she was told by one of her friends that *A* was not an ordinary child. *MA* felt that she and *A* together were existentially negated. From early stages of the counseling, *MA* had shown an attitude not to just make complaints dependently to our attention but rather a positive attitude to overcome the difficulties by herself. She had held a strong motivation for changing herself. In other words, she wanted to be such a mother who might be sensitive to any changes in her child, and also she wanted to be always lively and relaxed. So here on this stage we conducted the counseling with the Retroactive Evolution Imagery Therapy (REIT).

We asked *MA* to describe to us the image of obstruction to her self-changing mind if any, its color and shape, and her physical response to it. She said, "It's brown and distorted. It makes me feel oppressed and uncertain." Having confirmed her physical response, we let her enter the image of the womb, and asked her how it looked like. Then sprang into her mind the image of cold and dark interior and also of far and solid uterine wall. For her the natural desirable image of the womb interior should have been bright, wide and warm. We asked her, "In order for you to get the desirable image of the womb interior, we like to suggest you to go back to the past. Somewhere in the old age, you may have a different image of the way of your living. Now, which age do you want to go back to and what kind of image do you want to have there?" Then she said, "I want to go back to the primitive ages where others and I around can be bathed in light from the sun and I want to

be a bacterium so that I may have an image of myself living comfortably and cheerfully." Next, we encouraged her to evoke a bad image of womb interior and asked, "Which age are you in now and how do you feel?" Then she answered, "I'm in the early days of human history and I can see people fighting each other for survival because some of them are trying to lead the others. Those people of low social standing and the weak are very poor but all they can do is just to live in pain. These are the images I can see now." "Is there anything common to the both ages, early days of human history in your image and the present days which you live in now?" "Well, it is the problem that no way can be found to escape the misery despite my doing best." So, we once took her to the ancient age of bacterium and then took her back again to the early days of human beings. "Suppose you have been evolved as a descendent of that happy bacterium. Now what do you see in the early days of human history?" "Oh, this time all of us help each other and are better off with enough foodstuffs." "Keeping it in your mind, please imagine further that your descendants have been evolved. Now can you find any changes in your ancestors, parents and yourself?" "Everybody looks relaxed. They are mild and affectionate." With the image of such a new course of evolution she now had a new image of her own that she was able to easily find out with calmness the solution to difficulties. She started making a cool judgment. She even made a concrete action plan in the first place to change herself so that she might accept her children without being influenced by others. She said, "I'll try to listen in my mind to my daughter to the end without jumping the gun. No matter how trifle it may be, I'll listen and talk. I'll try to understand from her view point what they will talk." *MA* thus made up her mind to change herself though gradually to try to understand *A*, her daughter, with her own judgment howsoever strange *A* might look to others. Her resolution made her look so affectionate and spontaneous.

The stage of the recovery of child's self-esteem

After a while, *A* talked to us, "Mom's been changing." But the relations with her brother was reported as an everyday frustration. So we conducted the counseling for her to solve the issue. *A* complained of her displeasure caused by her brother's teasing her. So, we let her clarify what she really hoped. Using both methods of physical contact and affection signaling, we let her rehearse how to communicate to her brother exactly what she wanted to communicate.

Table 1 shows the changes in psychological characteristics of *A* and *MA*. These data show improvement of

visual acuity with improvement of psychological characteristics of *A* and *MA*.

Table1. Change of psychological characteristics after intervention

Change of psychological characteristics (*A*)

	before intervention	After intervention I	After intervention II	Follow-up
Self repression	4	1	1	1
Interpersonal dependency	1	—	1	1
Self esteem	0	5	8	8
Perceived emotional support(from Mother)	0	6	9	9
SATIC	35	23	23	25

intervention I: initial couseling

intervention II: 1st self-image script changing therapy for *A* and *MA*

Change of psychological characteristics (*MA*)

	before intervention	After intervention III	After intervention IV	Follow-up
Self repression	13	8	4	4
Interpersonal dependency	14	-	3	4
Self esteem	1	4	10	10
Percived emotional support(from Family)	1	6	10	10
Perceived emotional support(from others)	9	-	10	-
Probrem-solving behavior	9	15	15	-
SATI	70	60	40	-
SDS	60	-	42	40

intervention III: 2 nd self-image script changing therapy for *MA*

intervention IV: after Retroactive Evolution Imagery Therapy (REIT) for *MA*

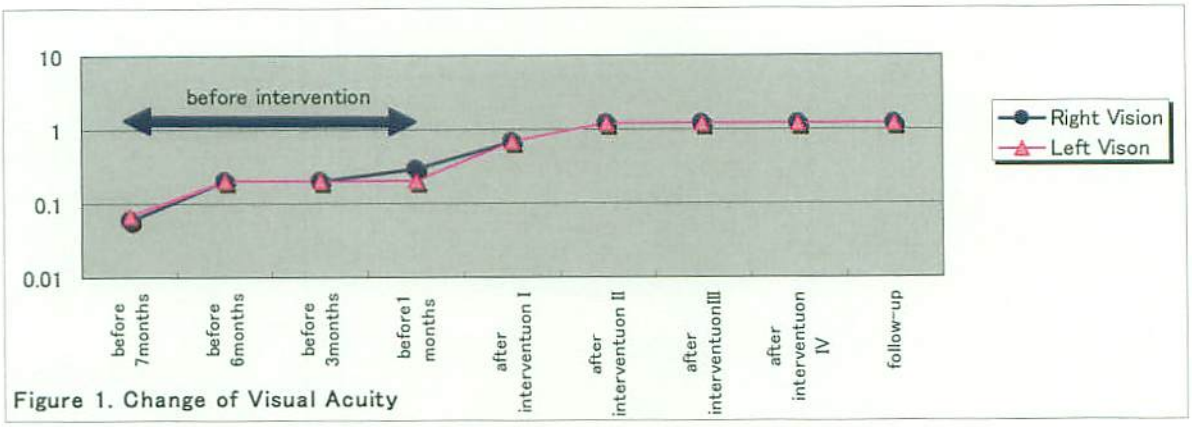

Figure 1. Change of Visual Acuity

4. Discussion

In this case, the visual acuity of *A* improved with increased scores for self-esteem, perceived emotional support, and decreased STAIC. Generally observed are cases of symptom shift such as appearance of visual impairment after recovery and improvement of visual acuity. It is more necessary to have a viewpoint to expedite the solution of fundamental problem rather than to make efforts to remove symptoms.

Werring, Bullmore, Plant, and Ron (2004) found reduced activation in the visual cortices on the one hand, and increased activation in left inferior frontal lobe, left insula-claustrum, bilateral striatum, thalami, left limbic structures and left posterior cingulate gyrus, on the other, among PVD patients Judging from the anatomical structure, the limbic system is believed to execute some kinds of high-order processing of the sensory information input from association areas (Barker and Barasi, 2000). Some of the major outputs from the limbic system are directed to the prefrontal area and hypothalamus, and the others to the cortical area which takes part in the planning of action including motional responses. It is said that the limbic system takes part particularly in

the responses to behavior representing emotional matters and signifying stimulus (Kawamura, 2000). Increased activation in the limbic system seems to support the result of its emotional reaction to the recognized stress. In our study (Higuchi, Munakata, & Hashimoto, 2004), children suffered from PVD showed a marked tendency toward having uneasiness. It leads us to suppose that the increased activation in the limbic system exercises an influence upon the high-order visual information processing system in the temporal visual pathway. When we conduct mental intervention to the client, we put emphasis on the formation of a positive self-image script of having been born warmly welcomed by the parents and family members. And all changes in and improvements of psychological characteristic, mental condition and physical symptom seen so far with the intervention of SAT therapy to PVD are assumed to be closely connected with normalization of cerebrophysiological functions. With psychological intervention, children suffered from PVD experienced increased sense of security, of self-value, and of emotional support. Also, they tended to experience less intensive negative cognitive process. They showed an improved mental condition, a recovery of physical functions, activation in the visual association area, and improved visual function.

The parents' interference experienced in childhood exerts a long-lasting influence upon how to receive and handle psychological stimulus even after subject child grows up and get older. Kawamura (2000) explains it using the concept of learning as basically 'the association of recollection and feeling', and also it is the sum total and integration of many associations. Assuming that the learning depends on interconnection of nerve fibers from hippocampus, amygdale, reward system and punishment system, he says that these neural interconnections in the wide domain are considered as the very complex. He emphasizes that the therapy is the change and transformation from the past learning to a new one. The therapy for PVD using SAT is also considered to accelerate 'relearning' which is similar to the concept of new learning advocated by Kawamura. In the therapeutic process for physical symptom appearing in child, says Murayama (1998), the 'growth model,' in which the patient grows up to an upper stage by recovering the illness, should be followed rather than the 'Bio-medical model.' The present authors like to propose PVD as 'the relearning model' through the experience of illness. The purpose of our therapy is to let the client not aim to grow one step up but rather learn from physical symptom, realize his/her own original demands and live his/her original self. In our therapy, the changes in the client's cognition and behavior are promoted from those with emotions of aversion system to those with emotions of reward system.

Image of strong fear that the client has is considered to be memorized hereditarily. The Retroactive Evolution Imagery Therapy (REIT) by Munakata (2006) treats such image as a life-threatening trauma which humans brought about in the process of life evolution. REIT helps the client go back to the past and form a peaceful safe image. It is known that man's ontogeny recapitulates the evolutional process of life in the womb, that man inherits in himself the whole process of life evolution and further that all substances that existed in the universe before life evolution are contained in human body (Yamada, 1992). There is no definite ground to prove if those memories of evolutional process are preserved in genetic level. In the afore-reported case accompanying mood disorder, however, we may suppose that REIT was effective for the transformation of the client's self-image because the client had a latent but strong sense of fear. We interpret the change in the client's self-image as follows; the client went back through her own evolutional process to the birth of the earth or even of the universe, where she obtained the sense of her being a part of the cosmos and recognized the people around her as intimate fellows with whom she was able to exchange mutual help and support, and thus finally her self-image was improved.

Munakata (2003) indicates that in the past unfinished stories which cause stress hidden under illness and disorder lurk three unsolved problems of soul over love related to previous generations, society, parents, one's self, nature, the absolute and others. These three problems are expressed in the following words; "I was not loved when I should have been loved," "I was not able to love myself when I should have trusted and protected myself," and "I was not able to love my valued one when I should have done so." He emphasizes that for the complete recovery of the illness and the disorder it is crucial to create the image that may solve the aforementioned problems. In the case of medical treatment for PVD as reported above also, it is not enough to pay our attention only to the patient child because there are latent problems including the basic demands in the minds of the parents and their previous generations which have been left dissatisfied. Therefore, we have been conducting the therapy for PVD paying our attention to the fact that there are such latent problems behind the symptom appearing in the patient child (Higuchi, 2006). In the above reported case which we intervened, the experiences to picture the image that the three basic demands have been fulfilled neither too much nor too little and the new images and memories obtained from those experiences through relearning are considered to have psychologically healed all the individuals concerned and promoted their physical stabilization. Particularly notable were the changes seen not only in the client child herself but also in her parents by formation of the self-image of the wished-for birth. In order to let child maintain positive self-image, the mental intervention to

the parents is indispensable because child is easily affected by the people around. So, by letting the parents change their self-image scripts we had them fix their wishful self-images as if they had been raised with the unconditional love by their preceding generations. When the parents themselves get changed to have the solid sense of being loved and the self-image script of being raised with unconditional love, they come to realize their 'natural selves' and accordingly they can restructure their own characteristic way of living for they are now well aware of their demands and goals. Then, it was thought that the parents through having solved their own problems showed the innate affection to their child and that the child's recovery was influenced by the recognition that her existence was confirmed as it really stood. It also was thought that small changes in cognition and behavior of both parents and child, together with changes in their family system, produced a favorable cycle the effects of which remained in the long run.

Thus in the treatment of PVD also, we believe it crucial to watch if the parents can honestly show their love to their children and fondly watch over them. It is effective to counsel the patient's parents on their own fundamental problems although it is not quite as direct (Higuchi, 2006). When we treat for a child's illness, it seems necessary for both the child and his/her parents to note the following steps: (1) Since the physically appeared symptoms are the externalized emotional turmoil which the patient avoid touching, we have to call upon them to become aware of some hidden problems yet to be solved. The first step for the solution must be not to get rid of something bad but to reveal the internal meaning of the symptoms and those problems yet to be solved. The process is believed necessary in which the patient clarifies what kind of demands he/she has and how he/she deals them. (2) The patient must grasp the externalized problems first, then internalize them as their own problems. The externalized symptoms suggest the existence of emotional turmoil, but it is not recognized. Physical symptoms are considered as defense reaction to bring mental balance with the recognition of something different from the self. To realize the meaning and problem of the symptoms, the process to temporally internalize them becomes necessary so that the symptoms may be recognized as the patient's own problem. Thus, we thought it necessary to clarify the problem after grasping the emotion behind the externalized symptoms and internalizing it by utilizing physical senses and non-linguistic approaches. (3) The third step is to fix both verbal and non- verbal image scripts necessary for the solution of fundamental problems. With the aid of non- verbal approaches such as affection signaling and touching, and also with the client's inspiration, a new image is to be formed to solve the past unsolved negative image. Besides, the client's own positive attitude is required.

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