International journal of child development and mental health
ISSN: 2286 – 7481; E-ISSN: 2586-887X *Vol. 7 No. 1 January – June 2019 (43-54)*

Sharing Experience Of Scalp Acupuncture For Child Development And Jessie Golgi Reflex Point To Relief Spasticity

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Received: 22 April 2019
Revised: 04 June 2019
Accepted: 11 June 2019

Abstract

Developmental disabilities including cognition, motor performance, vision, hearing and speech, and behavior are listed as major categories of developmental disability with corresponding (ICD)-10 codes. Treatment of these disorders can be difficult; treatment often involves a combination of professional therapy, pharmaceuticals, and home- and school-based programs. Traditional scalp acupuncture systems have been reported to be beneficial but do not include the Fusiform Face area treatment zone and the corpus callosum treatment zone, which the latest brain study found to be very important in child neurological development problem. 9 child patients, aged from 3 to 18 years old and corresponding (ICD)-10 codes, were treated with Neoh Scalp Acupuncture and Jessie Point to relieve their spasticity, with a five year follow up at our acupuncture clinic. The location of the Jessie Golgi Reflex Point is near the bicep muscle distal biceps tendon where the Golgi tendon organ is. No patients have dropped out of our five year acupuncture clinic follow up. They all still continue receiving treatment at our clinic as their parents found that their children continue to improve in every aspect of development. Interviews with their parents reported that most of their children's disabilities and spasticity improved progressively. The Jessie Golgi Reflex Point showed immediate improvement in their spasticity, whereas the spasticity of adult stroke patients in our clinic also improved with Jessie Golgi Reflex Point massage. Most children's disabilities were found to have hypoactive or hyperactive development at their Corpus Callosum, and Neoh Scalp Acupuncture specifically treated this area. Muscle spasticity was well treated with Jessie Golgi Reflex Point massage. This report is valuable for experienced acupuncturists in treatment of their own similar patients, and also for western trained physicians.

Keywords: Acupuncture; Child Development; Jessie Golgi Reflex Point; Stroke; Spasticity; Scalp Acupuncture

Introduction

Neurodevelopmental disorders are disabilities associated primarily with the functioning of the neurological system and brain. Developmental disabilities include limitations in function resulting from disorders of the developing nervous system. These limitations manifest during infancy or childhood as delays in reaching developmental milestones or as lack of function in one or multiple domains, including cognition, motor performance, vision, hearing and speech, and behavior as in the listing of the major categories of developmental disability with

corresponding International Classification of Diseases (ICD)-10 codes (WHO, 1992). Intellectual disability (ID) and Autism Spectrum Disorders (ASDs) are major social problems in all countries. Each, individually, has a rather high prevalence, with ID affecting 1-3% of the population and ASDs found in 1/50 school age children (Perou et al., 2013). Treatment of these disorders can be difficult; treatment often involves a combination of professional therapy, pharmaceuticals, and home and school-based programs. In this era there are some new techniques which help to enhance cognition and improve physical activities in neurodevelopment disorder children, such as Repetitive Transcranial Magnetic Stimulation (RTMS) (Valero-Cabre & Pascual-Leone, 2005), Neurofeedback (NFB) (Peniston & Kulkosky, 1989), brain gym and Brahmi (Barcopa) (Sivaramakrishna et al., 2005). The prime time for visual and auditory development, or a child's capacity for learning to see and hear, is from birth to between 4 and 5 years old. The development of these sensory capacities is very important for allowing children, especially babies, to perceive and interact with the world around them. During the first few months, especially, babies need to see shapes, colors, objects at varying distances and movement for the brain to learn how to see (Gopnik & Wellman, 2012). Treatment of these disorders can be difficult; treatment often involves a combination of professional therapy, pharmaceuticals, and home and school-based programs. Traditional scalp acupuncture systems do not have Fussiform Face area and no scalp acupuncture area as the corpus callosum treatment zone. We name the area as (Jessie Fussiform Face treatment zone). We use this Jessie Fussiform Face treatment zone and our other new finding, the corpus callosum treatment zone for clinical scalp stimulation to improve child brain development (Wolff et al., 2015). We like to share our experience in using this new Neoh Scalp Acupuncture for these brain development delayed children and used Jessie Golgi Reflex Point (Jessie Point) to reduce muscle spasticity of those children and also of post stroke patients. Actually, spasticity is a greater problem in post stroke patients. By the year 2020, strokes are expected to be the leading cause of lost healthy life years, worldwide. Even these bleak figures do not capture the full burden of a stroke: more than a third of people who survive a stroke will have severe disability and spasticity

The first two decades of life are a dynamic period for human brain development. By 6 years of age, brain volume has reached 95% of adult size with peak volume reached between 10.5 years for girls, and 14.5 years for boys. Peak brain weight is achieved in middle to late adolescence. This period of brain growth is characterized by exuberance in the connections of the brain that include the evolution of axonal and dendritic branches, the formation of synapses and dendritic spines throughout cortical and subcortical areas, and the myelination of axons. Coincident with these changes in brain structure is the equally remarkable evolution in functional abilities. Prominent examples include the rapid development of motor and sensory abilities in the first year of life, followed soon thereafter by remarkable gains in language and communication functions, perceptual discrimination expertise, logical reasoning, executive control and social behavior. The body of work on functional brain development is very large, encompassing many behavioral domains and functional abilities. Face processing is a critically important perceptual ability; it is the cornerstone of human social interaction. Expertise in processing faces is acquired over a protracted period. Development of this skill begins early in infancy but extends well into adolescence. Indeed, Cohen Kadosh considers face processing an exquisite target for developmental neuroimaging studies that can document experience-dependent changes in regional activation related to increasing expertise as well as illustrate important changes in brain network connectivity related to expanding capabilities in complex cognitive and social functioning (Cohen Kadosh, 2011). The theory of acupuncture starts with the

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meridian system and flow of energy, or qi (Stux, & Pomeranz, 2012). Meridians connect Zang-Fu organs to each other and to the surface of the body. The brain is connected to all of the Zang - Fu organs. Acupuncture stimulation may result in neural signaling, electromagnetic energy enhancement, neuro -immunomodulatory and neurochemical -hormonal effects. Scalp acupuncture is a specialized acupuncture technique with a specific body location (Hao & Hao, 2011). Scalp acupuncture helps in recovery of children's brain development, paralysis, aphasia, ataxia, and social interaction (Hao & Hao, 2012). The location of scalp acupuncture areas are based on the reflex somatotopic system organised in the surface of the scalp in Western medicine. It is very much linked to brain anatomy and not to the traditional Chinese medicine meridian system. An understanding and study of brain anatomy and pathophysiology are required for the practice of scalp acupuncture. The more knowledge about brain function, the better the selection of scalp acupuncture points for treatment. Traditional scalp acupuncture systems do not have the Fussiform Face area and there is no scalp acupuncture area such as the corpus callosum area. We named the area as the JJessie Fussiform Face treatment zone. We used Jessie Fussiform Face treatment zone and the corpus callosum treatment zone for clinical scalp stimulation to improve child brain development. Scalp acupuncture consists of needling zones rather than points on the skull according to brain neuroanatomy and neurophysiology. Scalp acupuncture needles are subcutaneously inserted into whole sections of arious zones, unlike the single point insertion of traditional acupuncture. These zones are specific areas through which the functions of the nervous and endocrine systems are transported to and from the surface of the scalp. These zones correspond to the cortical areas of the cerebrum and cerebellum responsible for central nervous system functions such as motor activity, sensory input, vision, speech, hearing and balance. Scalp acupuncture can help regain consciousness, and opening the inteligent orifice can significantly improve the efficacy of autism, effectively relieve child autism symptoms and enhance the intelligence, language ability and social adaptive abilities. (Allam, Eldine, & Helmy, 2008). Our own years of clinical experiences obtained similar results. Besides the Zhu system, there are many different schools of scalp acupuncture techniques. The International Standard scalp Acupuncture, Jiao's Scalp Acupuncture, Fang's Scalp Acupuncture and Tang's Scalp Acupuncture are prominent systems. . Many acupuncturist are confuse which one to choose as the best to use clinically? Can we combine those different schools of scalp acupuncture to treat brain development delay, stroke, autism and ADHD? When to use which one system? In our clinic, we used Zhu's, Fang's, Jiao's, Fang's and Neoh's Scalp Acupuncture systems to treat our patients. We treat each patient individually according to their suffering and disabilities. Practicing scalp acupuncture on adults is quite different from doing it on children. Usually children will not sit quietly for scalp acupuncture, and will cry or move about, or struggle, especially those with brain development problems and autism. Their scalps are also much thinner than adults. It is interesting to find that the scalp thickness grows proportionally with the child to adulthood, and then becomes thinner as they get older, which is also proportionally thinner in brain atrophy patients. As more knowledge has become available about brain function and neuro -anatomy, many advances have been made in scalp acupuncture. There are now several styles of scalp acupuncture. Zhu scalp acupuncture is based on the style used and taught by Dr. Ming Qing Zhu, who is well known for his innovative work with strokes and other neurological problems. Other prominent scalp acupuncture systems include The International Standard Scalp Acupuncture, Zhu's Scalp Acupuncture, Jiao's Scalp Acupuncture, Fang's Scalp Acupuncture and Tang's Scalp Acupuncture. There is also one system from Japan, the

Yamamoto New Scalp Acupuncture (YNSA) which we think is very useful and effective. They vary somewhat in needle location, needle manipulation technique, and needle retention time. Sometimes the hand, in one system, may be the leg in another system.

Neoh Scalp Acupuncture System

We developed the Neoh Scalp Acupuncture System by adding new scalp acupuncture treatment zones according to the latest findings of new brain research, such as hyperactivity/hypoactivity of the corpus callosum of autism and brain development child, and fusiform face area underdevelopment in autism and brain development child. We also make scalp acupuncture systems and treatment zones much easier for learning by Western trained medical physicians using our previous theory of how information and Qi travel up the back "Shu" points up to the brain and scalp area and affect our brain function (Neoh, 2001). With the Neoh scalp acupuncture system, acupuncturists can keep up to date with the latest brain research findings and clinical practices. No matter which system of scalp acupuncture, the specialized scalp acupuncture needle is used, and involves the insertion of short, thin, disposable needles between the skin of the head and the skull. Specific areas of the head are used for particular ailments since different parts of the brain control different areas of the body. The right side of the brain controls the left side of the body and the left brain controls the right side of the body, so the needles are placed accordingly. Interestingly, Corpus callosum is frequently neglected by most doctors although it is so closely related to brain development, Autism and ADHD. The corpus callosum (CC) is the largest white matter tract in the human brain, interconnecting homologous association areas of both hemispheres with approximately 180 million callosal fibers passing through it. The CC receives abundant blood supply from both the anterior and posterior cerebral circulation. The rostrum and genu are supplied by the subcallosal and the medial callosal artery, respectively. Both vessels are derived from the anterior communicating artery. Damage to the CC usually produces disturbance of higher brain function. Neoh Scalp Acupuncture stresses the importance of needling the corpus callosum reflex treatment zone over the scalp. Trying to figure out which area is the corresponding scalp acupuncture treatment zone for corpus callosum is very important. In the Yongxin Li study: "The Effect of Acupuncture on the Motor Function and White Matter Microstructure in Ischemic Stroke Patients", acupuncture was performed at the Baihui (GV20), Fengchi (GB20, bilateral), Xuanzhong (GB39, bilateral), Quchi (LI11 bilateral), Hegu (LI4, bilateral), Zusanli (ST36, bilateral), and Sanyinjiao (SP6, bilateral) acupoints. This study demonstrated that there was an improvement in motor function after acupuncture treatment, compared to conventional treatment. In his study, neuroimaging results showed that diffusion indices in white matter tracts were significantly enhanced one month after treatment. So, we added Baihui and Fengchi for our autistic, ADHD and brain development delayed patients. Scalp acupuncture for children needs to be done very quickly and precisely, as they are impatient with slow treatment. Once inserted, the needles are gently manipulated while the acupuncturist or family moves or massages the affected limb or specific area of the patient's body. The patient may be instructed to concentrate on the area that is being manipulated, for greater movement of the body's energy to that area. Autistic and brain delayed development children find it more difficult to follow instructions and they will automatically concentrate on the needles in their scalp, due to curiosity or fright of the needles. This is very important and the key to success of scalp acupuncture. Some systems may be more effective for certain symptoms. Sometimes, we need to incorporate a different system to obtain a better result. Some children are more sensitive to different scalp acupuncture system treatment. After scalp acupuncture needling, if the child continues to cry, it means the needle is too deep, and may be affecting

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the periosteal, requiring slight needle withdrawal until the child stops crying or feeling irritated. The child must be observed for any adverse effects such as needling fainting or any other discomfort. The frequency and duration of the treatment can be highly variable. It is more effective to do rehabilitation while the needle remains in their scalp. After being treated with scalp acupuncture for stimulation of their speech, motor and sensory, and mental areas, corpus callosum area, and Jessie Fusiform area once a week for years, patients' mental development, social interaction, dysarthria, ataxia, weakness of legs, spastic gait, arms, and hands showed noticeable improvement from each scalp acupuncture treatment. Our rehabilitation department reported that it was easier for them to rehabilitate these patients, after scalp acupuncture treatment. Although no patient has recovered completely, our rehabilitation therapists ask these patients to have scalp acupuncture and leave the acupuncture needles in their scalps while they help them with rehabilitation. Neoh's Scalp Acupuncture causes Qi from Front Mu to flow through to Back Shu Points, then travel up to the brain, nose, tongue and ears Neoh Qi flow theory can be explained by the different holograms of micro - acupuncture of the nose, tongue , ear and various scalp acupuncture (Neoh, Neoh, & Neoh, 2017). It seems that the longer an acupuncture needle stays in the child's head, the better the result. Scalp acupuncture and modern rehabilitation therapy have synergistic action on infantile cerebral palsy and other brain development delay. Body points are sometimes used as an adjunct to scalp acupuncture therapy. We use relatively few body points as adjunction, but emphasize obtaining the qi sensation with propagation of the qi sensation towards the affected part. Examples of body points are ST-36 for lower limb weakness, or LI-11 or GB-20 for arm weakness. If a body part affected by disease or injury involves relative localized pain or spasm, we use body points primarily for local treatment and usually with deep needling. Body points are sometimes selected because of failure to obtain the desired qi reaction when using scalp points. We call this method the "Neoh bidirectional stimulation method". The body needles are also retained during the full length of a patient's long scalp acupuncture treatment, for up to two hours, not just 20–30 minutes, as is often the case with standard acupuncture therapy.

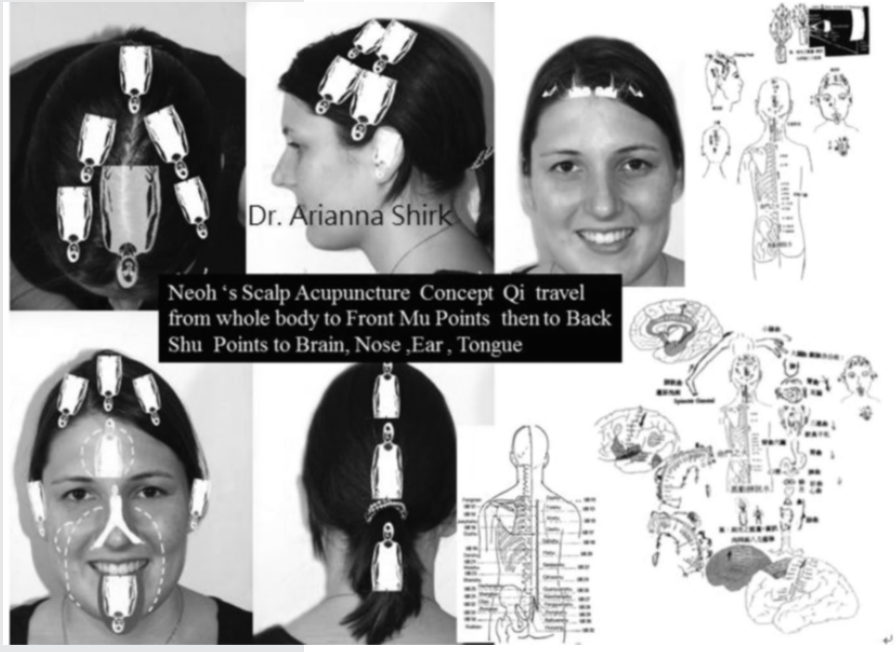

Figure 1 : Neoh's Scalp Acupuncture causes Qi from Front Mu to flow through to Back Shu Points, then travel up to the brain, nose, tongue and ears (Neoh Qi flow theory can be explained by the holograms of micro-acupuncture of the nose, tongue , ear and various scalp acupuncture.

Fusiform face area (FFA)

In the first 20 years of life, the human brain undergoes tremendous growth in size, weight, and synaptic connectedness. Over the same time period, a person achieves remarkable transformations in perception, thought, and behavior. One important area of development is face processing ability, or the ability to quickly and accurately extract extensive information about a person's identity, emotional state, attractiveness, intention, and numerous other types of information that are crucial to everyday social interaction and communication (Frank & Gizelle, 2017). Associating particular brain changes with specific behavioral and intellectual developments has historically been a serious challenge for researchers. The "core" face system processes the invariant aspects of faces, such as facial features and identity (Gobbini & Haxby, 2007; Haist & Anzures, 2016). This system includes a region in the lateral middle fusiform gyrus (commonly referred to as the fusiform face area, FFA11, the occipital face area (OFA) in the lateral inferior occipital gyrus, and the posterior superior temporal sulcus (pSTS). One important feature of the adult FFA and OFA is that these regions are activated automatically when viewing faces. In contrast, activation of the pSTS is most closely associated with monitoring dynamic face changes such as movements in eye gaze and the mouth. Recruitment of regions in the "extended" face system tends to be relatively task-specific. For example, the amygdala, insula, and other limbic regions are most active when tasks require the analysis of emotion. This preference for faces is driven by early visual preferences for bounded stimuli with more features on the top than on the bottom. By 3–5 months of age, infants can identify faces using the specific features of faces (featural information) and the arrangement of those features on the face, and by 6–10 months of age, infants categorize faces by gender, race, and attractiveness. Traditional scalp acupuncture system do not have Fussiform Face treatment zone. To address these concerns, we have to figure out where these area should be! And we name the area as (Jessie Fussiform Face treatment zone).The gallbladder and heart share a close connection. The gallbladder's decisiveness helps the heart to control the mind. The liver and gallbladder are closely related, so much so that it can be difficult to separate their functions and disharmonies, like the commonly seen OM pattern of liver/gallbladder damp-heat. The liver, known as "the general," creates thoughts and ideas; it plans and strategizes. The gallbladder, "the general's advisor," implements the liver's plans and oversees their execution. The gallbladder has its own unique mental activities and emotional characteristics associated with it. It is commonly stated that the gallbladder is responsible for decision making, judgment, and courage. Gallbladder meridian connects with the brain via GB20. The Neoh Scalp acupuncture system must include the Jessie Fussiform Face area for clinical scalp stimulation to improve child brain development. Fubai (Floating White) belong to the gall bladder meridian, is the Qi blood material as the warm hot water vapor cloud Qi. After dispersing the heat and absorbing moisture, it flows down to Touqiaoyin (Yin Portals of the Head). At Touqiaoyin the liver Qi blood becomes vapor below the "sky", and then transfers to the Wangu acupois your brain to clear up, just like you can see things clearer. Therefore, make this area the Jessie Fussiform Face treatment zone for clinical scalp stimulation to improve child brain development by improving their facial recognition ability.

Jessie's Golgi reflex point

Clinical practice tells us that no matter how you stretch the spastic arm of the stroke patient or the spastic cerebral palsy child's arm, it just will not let go and relax. We found clinically that only massage of the Jessie's Golgi reflex point can immediately relieve the spastic arm. The idea of relieving spasticity of the stroke patient or child with neuro disorder by stimulating the Jessie's Golgi reflex point came from the Golgi tendon reflex.In the Golgi reflex arc where the Golgi tendon organ serve as sensors, detecting excessive tension caused by muscle contraction.

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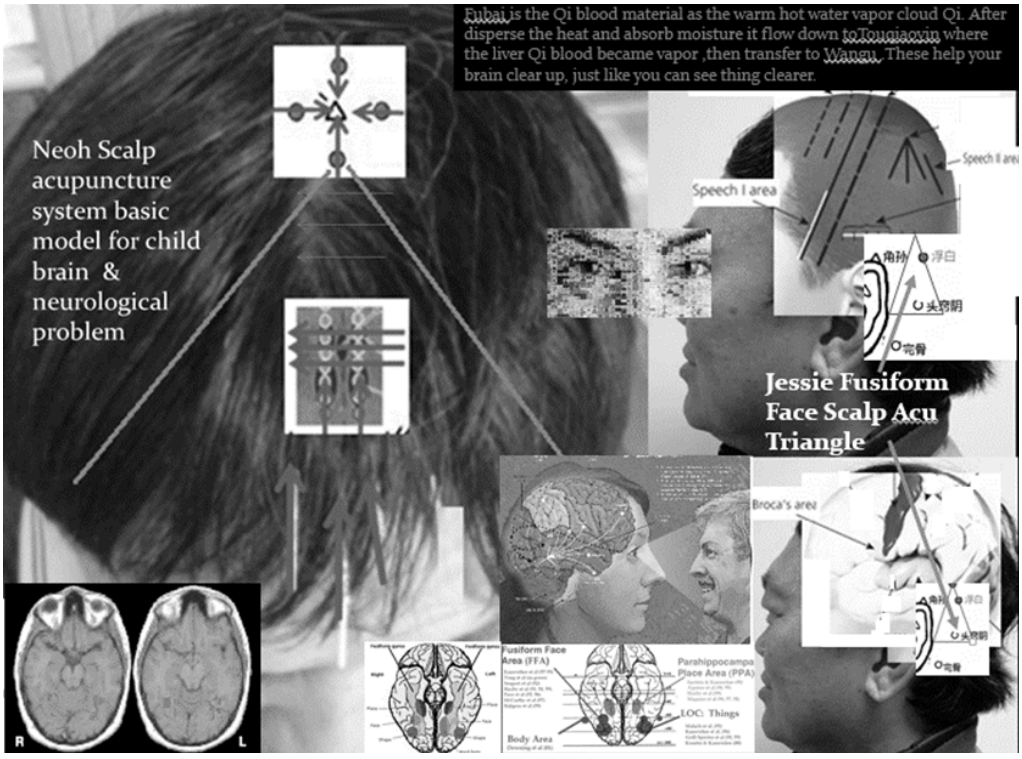

Figure 2 : Neoh's Scalp Acupuncture stresses the importance of needling the Jessie Fussiform Face area

Then the nerve impulses transport through the Ib sensory fiber to the spinal cord. In the Spinal cord, the Ib sensory fiber synapse with an inhibitory interneuron, which afterwards, releases glycine that inhibits the alpha motor neuron, finally resulting in muscle relaxation and relieving the tension. So this inspired me, although we said the spasticity commonly indicates there is an upper neuron lesion, it's really hard to treat a lesion located in the central nervous system. Alternatively, we could try to treat from a peripheral site. We could strike the bicep tendon inducing bicep tendon reflex, resulting in contraction of the muscle, which we commonly practice in neuro physical examination testing deep tendon reflex, On the other hand, maybe we could find a way to induce the Golgi tendon reflex to relieve muscle over contraction, i.e. the spasticity. It is difficult to "fix" the permanent lesion of the upper neuron caused by stroke or other neuro disorder, but we could use the Golgi reflex point to help patient's muscle relief temporarily as rehabilitation treatment, instead of indulging the spasticity all day long, which, for a long time, even years, would worsen the stiffness of the muscle. According to the Golgi reflex theory, we have used the Jessie Golgi reflex point on several patients, and it resulted in a surprisingly good release of the spasticity of the arm. Definitively, you could not induce the bicep reflex by striking the wrong point, neither could the Golgi reflex. Therefore finding the right point is crucial. The sensory receptors of this reflex arc are called the Golgi receptors, and roughly lie within a tendon near its junction with a muscle. Instead of detecting the changes in muscle length like muscle spindles, tendon organs respond to changes in muscle tension. We need to locate the Jessie Golgi point in the patient's arm by palpating the patient's medial bicep muscle near the forearm. When the correct

point is found, the patient's forearm can be extended easily. If you do not press the correct point, no matter how hard you pull the patient's arm, it remains in a spastic posture. Only massage and continue pressing on the Jessie Golgi reflex point will relieve the spasticity. Acupuncture of the Jessie Golgi reflex point will not help relax the patient's spasticity. Our patients, after being educated on how to massage that point, can do it themselves with their good hand, and improve continually at home.

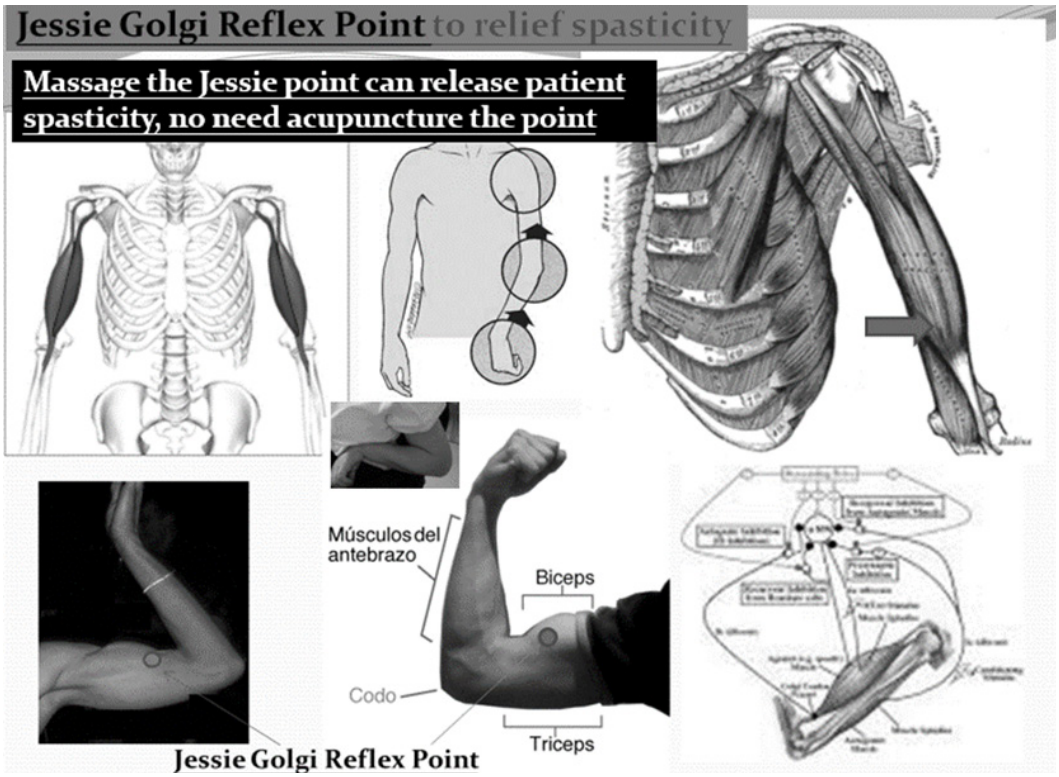

Figure 3 : Stresses the importance of massage and continual pressing on the Jessie Golgi reflex point to relieve patient spasticity

Objectives

The objective of this report is to help acupuncturist to use effective new Neoh scalp acupuncture method to solve the developmental disabilities patients with corresponding ICD-10 codes. This is because treatment of these disorders can be difficult even after using treatment that involves a combination of professional therapeutic techniques, pharmaceuticals, and home- and school-based programs. Traditional scalp acupuncture system has been reported to be beneficial but they do not emphasize the usage of Fussiform Face area treatment zone nor corpus callosum treatment zone which the latest brain study found to be very important in child neurological development problem

Methods

9 patients, aged 3 to 18 years old children, with brain delayed development disabilities corresponding to (ICD)-10 codes including ADHD, autism, learning disabilities, mental retardation, conduct disorders, cerebral palsy, spasticity, social interaction, and gait problems were treated with Neoh Scalp Acupuncture (Neoh et al.,

2017). All of these patients were diagnosed and referred from our hospital rehabilitation specialist and neurologist, according to their specialist guide lines. These patients were treated with scalp acupuncture once a week on specific scalp acupuncture treatment areas that help stimulation of their speech, motor and sensory, and mental areas. East scalp acupuncture treatment acupuncture needles were left on the children's scalps for one hour and during that time, parents were asked to talk to their children, help their children to move, stimulate their sensations, and ask their children to do actions that they normally were unable to do. These patients were treated with Neoh scalp acupuncture with stimulation of their speech, motor and sensory, and mental areas. Their corpus callosum area treatment zone, and Jessie Fusiform area treatment zone (Jessie Fusiform Face Scalp Acupuncture Triangle) were also stimulated once a week with a five year follow up at our acupuncture clinic. Those patients with spasticity were treated with Jessie Golgi Reflex Point massage to relieve their spasticity. The family were taught how to massage the point of the patient and do it frequently at home. The Jessie Point was located near the bicep muscle distal biceps tendon where the Golgi tendon organ is.

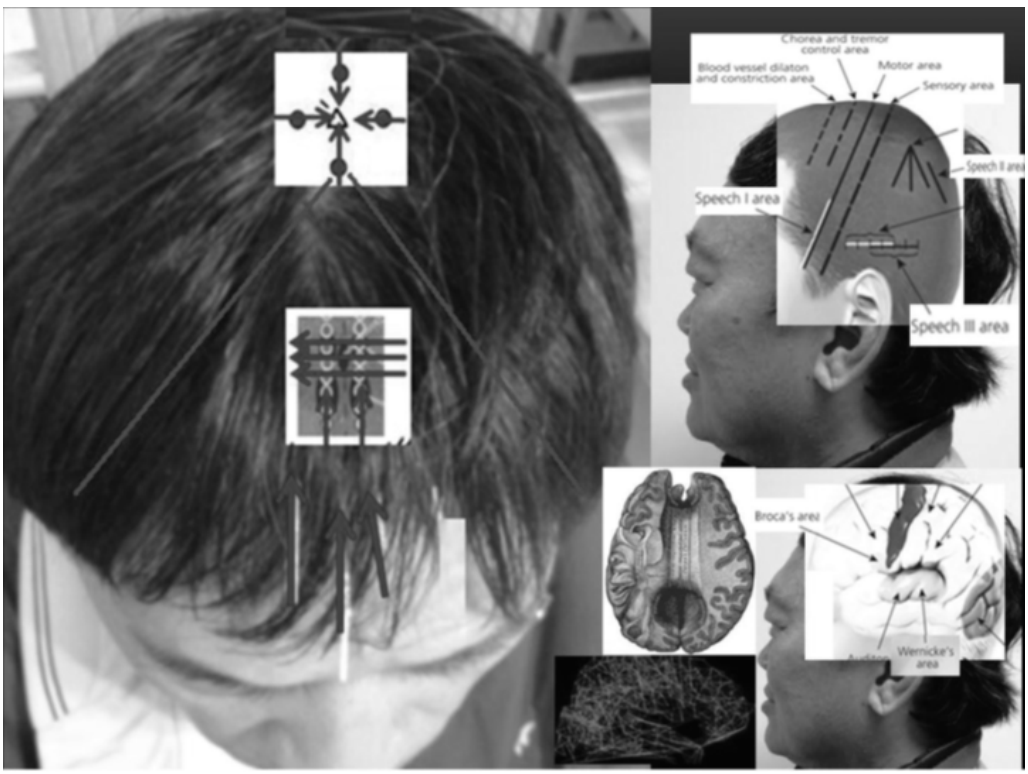

Figure 4 : Neoh's Scalp Acupuncture stresses the importance of the corpus callosum

Results

No patients dropped out of our five year acupuncture clinic follow up. They all still continue receiving treatment at our clinic as their parents found that their children continue to improve in every aspect of development. These 9 patients were reported by their families as improving in speech (can speak out more words and phrases. One 4 year old child previously couldn't speak, but spoke to her mother

immediately after our scalp acupuncture) expression, cognition, social interaction, gait and fine movement. Our rehabilitation specialists perfer patients to have their acupuncture needles still on their scalp while they are helping them to rehabilite, because they reported that it is easier for these children to be more relaxed and cooperative, and enables better understanding of how to do an exercise requested by rehabilitation specialists. Interviews with their parents showed that most of these children's disabilities and spasticity improved progressively. Parents were happy with their children's improvement in various fields and continue to bring their children to our clinic for treatment. Jessie Golgi Reflex Point massage has been shown to give immediate relaxation and is able to be extended, great improving their spasticity. The spasticity of adult stroke patients in our clinic also improved. Before the massage, no matter how hard you tried to relax a patient's spasticity, it was all in vain.

Conclusions and Discussions

Most children's disabilities were found to have hypoactive or hyperactive development at their Corpus Callosum, and Neoh's Scalp Acupuncture specifically treat these Corpus Callosum abnormalities. Muscle spasticity is a clinical syndrome of CP resulting from upper motor neuron lesions, so relief spasticity is an important therapeutic target. The Golgi tendon organ is a proprioceptive sensory receptor organ that senses changes in muscle tension. If there is too much muscle tension, the Golgi tendon organ will inhibit the muscle from creating any force, thus protecting you from injuring itself. The Jessie Golgi Reflex Point could impact primary afferent neurons from paraspinal tissues and influence muscle spindle afferents and Golgi tendon organs, which are directly involved in muscle tone regulation. During this period, our 21 post stroke and post craniotomy patients, aged 20 to 68 years old, with various disabilities and spasticity, were also treated with Neoh's scalp acupuncture and Jessie Golgi Reflex Point massage with good results too. Neoh's Scalp Acupuncture stresses the importance of the corpus callosum central nervous system and neuroendocrine function. These cases demonstrate that scalp acupuncture can be helpful in treatment of children with autism and brain development disorder. Scalp acupuncture can go side by side with neurologist treatment and rehabilitation. The Neoh's Scalp Acupuncture System is a growing and continually improving system. In TCM, doctors focus more on reinforcing what children lack. TCM holds the view that brain development problem is an inborn problem of slow development of shen (spirit/brain), and this problem is believed to be caused by deficient primary energy that the child was born with. This energy is a major source of brain growth, according to TCM, and without sufficient energy, heart Qi, children cannot develop their shen. In TCM, the brain is related to Shen and Shen is related to Heart! So if the patient is an older child or an adult, we will needle their heart point on the meridian, and their palm and foot at the auricular point, the Su Juk acupuncture point. The more we know about brain development and brain development disorder, the more we can use new scalp acupuncture points, such Jessie Fusiform Face treatment zone and Corpus Callosum treatment zone to help treat them. "Baihui" and "Fengchi" are two must points for treatment. Jin's "Sanzhen", Yamamoto Scalp acupuncture, TCM open orifice points, Zhu's system, etc. therapies. For example, we put more needles over their right hemisphere limbic system area, and do more stimulation over their speech areas I, II and III, corpus callosum area and Jessie Fussiform Face treatment zone. It turns out that we have better results than when we previously used traditional points.

Limitation

This report has the limitation of still no up to date research on how scalp acupuncture can help treat neurological diseases and we also cannot provide any

explanation of the treatment mechanism. Also, the improvements in these patients are minimal and are only being detected and appreciated by their parents, rehabilitation specialists, and neurologists who refer their patients for our scalp acupuncture treatment. Hopefully in the future, more research will be done to evaluate the scalp acupuncture mechanism. For now, we can only help to clinically improve a patient's general condition. This report is of more value to experienced acupuncturists for helping with treatment of their own similar patients (Li, Sun, Lu, Liu, & Geng, 2009). But it is of less value to western trained physicians who haven't learned nor understood traditional Chinese medicine, acupuncture and scalp acupuncture, which are necessary in order to master this technique.

Acknowledgement

The authors wish to thank all of our patients and their parents for agreeing to share their cases for this paper, and to help other doctors learn and treat similar cases in the future.

References

Agnes A. Holloway (2016). Paraplegia: Clinical characteristics, prevalence and Treatment outcomes. *Nova Science Publishers, Inc.*, 83-131.

Allam, H., Eldine, N. G., & Helmy, G. (2008). Scalp acupuncture effect on language development in children with autism: a pilot study. *The Journal of Alternative and Complementary Medicine, 14*(2), 109-114

Cohen Kadosh, K. (2011). What can emerging cortical face networks tell us about mature brain organisation? *Developmental Cognitive Neuroscience, 1*(3), 246-255.

Gobbini, M. I., & Haxby, J. V. (2007). Neural systems for recognition of familiar faces. *Neuropsychologia, 45*(1), 32-41.

Gopnik, A., & Wellman, H. M. (2012). Reconstructing constructivism: Causal models, Bayesian learning mechanisms, and the theory theory. *Psychological Bulletin, 138*(6), 1085-1108.

Haist, F., & Anzures, G. (2016). Functional development of the brain's face processing system. *Wiley Interdisciplinary Reviews: Cognitive Science, 8*(1-2), e1423.

Hao, J. J., & Hao, L. L. (2011). The Treatment of Pain Through Chinese Scalp Acupuncture. *Pain Procedures in Clinical Practice*, 173-185.

Hao, J. J., & Hao, L. L. (2012). Review of Clinical Applications of Scalp Acupuncture for Paralysis: An Excerpt from Chinese Scalp Acupuncture. *Global Advances in Health and Medicine, 1*(1), 102-121.

Li, M., Sun, J. H., Lu, J. W., Liu, L. Y., & Geng, H. (2009). Observation on theraputic effect of five-needle-in-nape acupuncture for treatment of poststroke pesudobulbar paralysis dysphagia. *Zhongguo zhen jiu= Chinese acupuncture & moxibustion, 29*(11), 873-875.

Neoh, C. A. (2001) Can back shu point explain human brain anatomy? *Journal of Chinese*

Medical Association of Acupuncture, 69-72.

Neoh, C. A., Neoh, K., & Neoh, J. (2017). Scalp Acupuncture Treatment for Children with Autism and ADHD. *International Journal of Child Development and Mental Health, 5*(2), 45-57.

Perou, R., Bitsko, R.H., Blumberg, S.J., Pastor, P., Ghandour, R.M., Gfroerer, J.C., Hedden, S.L., Crosby, A.E., Visser, S.N., Schieve, L.A., Parks, S.E., Hall, J.E., Brody D., Simile, C.M., Thompson, W.W., Baio, J., Avenevoli, S., Kogan, M.D., Huang, L.N. (2013). Surveillance summaries. Washington, D.C.. Mental health surveillance among children-United States, 2005-2011. *Morbidity and mortality weekly report, 62*(2), 1–35.

Peniston, E. G., & Kulkosky, P. J. (1989). α-θ Brainwave Training and β-Endorphin Levels in Alcoholics. *Alcoholism: Clinical and experimental research, 13*(2), 271-279.

Sivaramakrishna, C., Rao, C. V., Trimurtulu, G., Vanisree, M., & Subbaraju, G. V. (2005). Triterpenoid glycosides from Bacopa monnieri. *Phytochemistry, 66*(23), 2719-2728.

Stux, G., & Pomeranz, B. (2012). *Acupuncture: textbook and atlas.* Springer Science & Business Media.

World Health Organization (WHO) (1992). *ICD-10: International statistical classification of diseases and related health problems, 10th revision.* World Health Organization: Geneva.

Wolff, J. J., Gerig, G., Lewis, J. D., Soda, T., Styner, M. A., & Vachet, C. (2015). Altered corpus callosum morphology associated with autism over the first 2 years of life. *Brain, 138*(7), 2046-2058.

Valero-Cabre, A., & Pascual-Leone, A. (2005). Impact of TMS on the primary motor cortex and associated spinal systems. *IEEE Engineering in Medicine and Biology Magazine, 24*(1), 29-35.