

"Migraine and tension type headache; an Acupuncture standardized neuromodulation protocol for people with central sensitization (CS) of the nervous system."

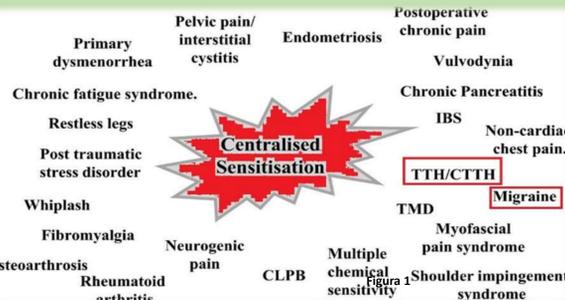
Dr. Losio Antonio; UMAB; Commissione Medicine Complementari OMCeO Brescia;



Introduction

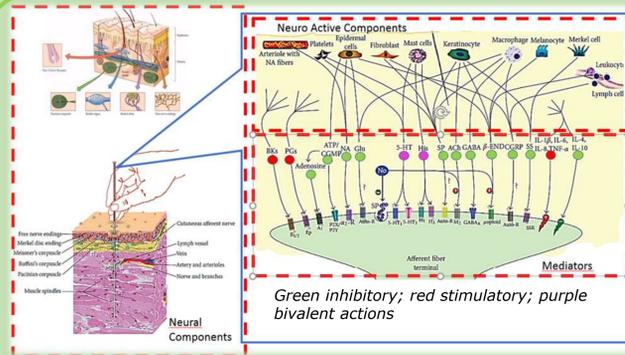
Central sensitization (CS) is a process characterized by generalized hypersensitivity of the somatosensory system; we can better define it as an amplification of neural signaling within the central nervous system that elicits pain hypersensitivity. Many chronic pain patients, including those with persisting neck pain, pelvic pain, low back pain, fibromyalgia, subacromial impingement syndrome, chronic fatigue syndrome, tension-type headache, migraine, osteoarthritis, rheumatoid arthritis, tennis elbow, nonspecific arm pain, and patella tendinopathy show features suggestive of central sensitization (CS). (1)

Several studies suggest the idea that sensitization of the central nervous system can represent one underlying mechanism in the pathophysiology of headaches. (2)



What is an acupoint?

An acupoint can be defined as a "Neural Acupuncture Unit" (NAU) (3), alias an anatomical landmark that may contain relatively dense and concentrated neural and neuroactive components upon which acupuncture stimulation would elicit a more efficient therapeutic response compared to no acupoints. Neuroactive components of NAUs can be defined as no neuronal tissues and cells that release various mediators capable of modulating afferent fiber transmission of NAUs. The mediators can be classified as inhibitory and stimulatory.



Acupoint virtual or real?

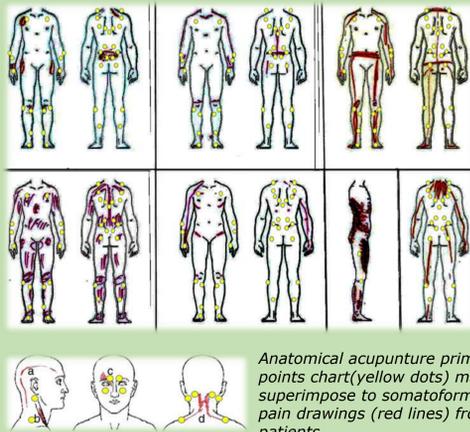
Nowadays is rising the concept that NAU which, in healthy state, would be in a virtual state mode could be subject to what has been defined as "acupoint sensitization", which indicates that when the organs change from the healthy state to the pathological state, acupoints shift from a virtual state model to a sensitized state. (4) Another emergent concept is "dynamic states of APs" deeming that the size and function of acupoints are not in a stable state, but they are in a changing and dynamic one. The function and size of APs will vary along with the state of the body, particularly with the function of a specific internal organ. (5) As another consequence we can often see that because of this considerable central sensitization some patients may be found to have large, well circumscribed areas of tenderness; as therefore we can speak of acupoint zone instead of acupoint point. (6) When internal organs are under pathological conditions, acupoints become more sensitive and may present hyperalgesia or allodynia and the size of acupoints may vary according to visceral alterations. These considerations again in confirm the hypothesis that when something in the body changes from the healthy state to the pathological state, acupoints may shift from a virtual state model to the sensitized state model. Accordingly, in pathological conditions, the diagnostic and therapeutic effects of sensitized acupoints on some pathologies could be enhanced. (7)

Anatomical Acupuncture

Anatomical acupuncture has been proposed by dr. Houchi Dung, an American acupuncturist who was born in Taiwan. (8) Doctor Dung utilizes three group of acupoint points or zones. Those described in his writing are a total of 112; someone bilateral and someone on the medial line of the body. All the points were subdivided as follow: primary points from point n°1 to point n°24, secondary points, tertiary points, non specific points. The numbering of the points is like this because, according to the theory of dr. Dung, this is the order to which they pass from a virtual or silent state to an active one and become more sensitive and present hyperalgesia or allodynia; this would represent the progressive deterioration of body homeostasis. The site at which they appear is not whenever related to the site of primary nociception or pain of patient; it may be sometimes present bilateral or in a contralateral or mirror localization; moreover may be present in an axial mode, on the left and right side of the body, and above and under the waist, it may also be segmentally or extra segmentally located. These features are similar to what is found in the case of CS pain.



The red dot is the scholastic localization of SP9; red line cover the area where the point may be localized in dysmenorrhea women as a sensitized area.



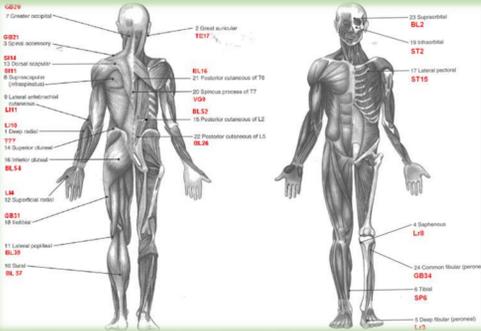
Anatomical acupuncture primary points chart (yellow dots) may superimpose to somatoform pain drawings (red lines) from patients.

Discussion

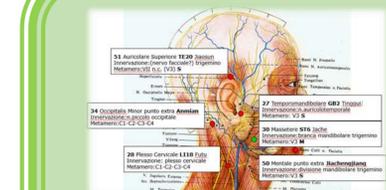
The acupoint point is a virtual reality that could be activated following pathologies connected to it according to the rules of traditional acupuncture. This dynamic activation involves its extension up to the size of a zone, even the displacement from the primitive seat of millimeters or few centimeters and the acquisition of peculiar qualities, primarily the tenderness, the hyperalgesia and the allodynia. The points that are activated for a corresponding pathology can do so, as well as in the seat of the same, even remotely in the body homolaterally, contralaterally, bilaterally or even in a specular way on the sister's anatomical seat of the pathological one. The treatment of these points is decisive for therapeutic purposes. These features are similar to what is found in the case of CS pain. Therefore, the activation of the acupoint point could also be considered as a consequence of a CS process.

Conclusions

Anatomical acupuncture re propose the same concepts in a standardized and easily applicable way. In the particular case of migraine and headache the operative procedure will consist first in examining the 24 primary points in the whole body treating the sensitized ones. If there would have been only limited results the secondary, tertiary and non-specific points of the cephalic region and of the perianal muscles will be examined and treated if sensitized. These method could represent an useful help to standard medical therapy especially in the case of chronic tension-type headache and chronic migraine.

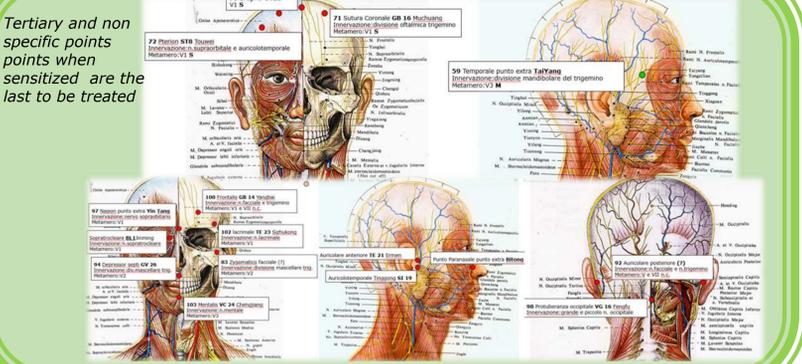


Primary points when sensitized may be the only to be treated



Secondary points when sensitized may be utilized to improve results.

Tertiary and non specific points when sensitized are the last to be treated



- Nijs, Jo, et al. "Applying modern pain neuroscience in clinical practice: criteria for the classification of central sensitization pain." *Pain physician* 17.5 (2014): 447-457.
- Kindler, Lindsay L., Robert M. Bennett, and Kim D. Jones. "Central sensitivity syndromes: mounting pathophysiologic evidence to link fibromyalgia with other common chronic pain disorders." *Pain Management Nursing* 12.1 (2011): 15-24.
- Zhang, Zhang-Jin, Xiao-Min Wang, and Grainne M. McAlonan. "Neural acupuncture unit: a new concept for interpreting effects and mechanisms of acupuncture." *Evidence-based complementary and alternative medicine* 2012 (2012).
- Quiroz-González, Salvador, et al. "Acupuncture Points and Their Relationship with Multireceptive Fields of Neurons." *Journal of acupuncture and meridian studies* 10.2 (2017): 81-89.
- Chen, Sheng, et al. "The study of dynamic characteristic of acupoints based on the primary dysmenorrhea patients with the tenderness reflection on Diji (SP 8)." *Evidence-Based Complementary and Alternative Medicine* 2015 (2015).
- Baldry, Peter, and Thomas Lundberg. "Large tender areas, not discrete points, observed in patients with fibromyalgia." *Acupuncture in Medicine* 25.4 (2007): 203.
- Yu, Ling-Ling, et al. "Changes in responses of neurons in spinal and medullary subnucleus reticularis dorsalis to acupoint stimulation in rats with visceral hyperalgesia." *Evidence-Based Complementary and Alternative Medicine* 2014 (2014).
- Dung, H. C. "Anatomical features contributing to the formation of acupuncture points." *American Journal of Acupuncture* 12.2 (1984): 139-143.
- Egloff, Niklaus, et al. "Pain drawings in somatoform-functional pain." *BMC musculoskeletal disorders* 13.1 (2012): 257.