Letter to Editor

Iran J Pediatr
Mar 2009; Vol 19 (No 1), Pp:84-85

Is Thermal Regulation Processing Involved in the Etiology of Self Injury of Skin in Autism?

Ahmad Ghanizadeh*[1, 2], MD

1. Department of Psychiatry, Shiraz University of Medical Sciences, Shiraz, IR Iran
2. Research Center for Psychiatry and Behavioral Sciences, Shiraz University of Medical Sciences, Shiraz, IR Iran

Received: 29/07/08; Revised: 19/08/08; Accepted: 20/10/08

Seventy percent of children with autism have sensory perceptual processing problems[1]. Some of autistic people have an increased sensitivity to thermal pain[2]. These problems are associated with impairment of adoption to environment[3]. For example, some of them are hypersensitive to sound and tactile perceptions while some other are hyposensitive to sound and tactile perception [4, 5]. Some of them have both sensory hyper- and hyposensitivity[1]. Children with hypo-sensitivity are involved in self-harms behavior while it appears that they do not feel pain[1]. A reason for social isolation in autism is overwhelming tactile sensory input that causes social aversion[6]. Thresholds for detection of innocuous thermal stimuli including both heat and cold in subjects with autism is lower than normal control group[2]. In other words, they perceive heat pain at lower temperature.

This is a case report on a child with autism and mental retardation. He injures himself when it is warm. This case is the first report of thermal stimuli as a possible reason for self injury behavior in children with autism.

* **Corresponding author; Address:** Research Center for Psychiatry and Behavioral Sciences, Shiraz University of Medical Sciences, Shiraz, IR Iran
E-mail: ghanizad@sina.tums.ac.ir

The patient is a 12 year-old boy with autism, clinically estimated moderate mental retardation, and Down's syndrome. He is suffering from symptoms including stereotypic behaviors such as repeating few words, frequently prompting his finger to sky, highly interested in vacuum cleaner machine, a significant delay and deviation in speech such as lack of an effective verbal communication and verbal response. Also, he had a very limited social relationship. Autism diagnosis was made according to DSM-IV diagnostic criteria[7]. Some of his physical characteristics were: being unusually quiet, flat face, small head, flat bridge of the nose, small and misshapened ears, shorter than normal height, low-set nose. His feature was as that of a child with Down's syndrome.

His family reported that he injures himself when it is warm. He scratches and pinches himself causing abrasions, sores or bruises. This self injurious behavior is stopped by taking shower or cooling him. This behavior and its association with heat has been happened many times. Risperidone 1 mg/day did not improve it. Consent was given by parents for publication of this report.

Self injury is a repetitive intentional act that may cause tissue damage. An approach to the study of self-injury is functional analysis that gets insight into the context, the antecedence and consequence of behavior. Appropriate treatment interventions should be based on a comprehensive functional analysis of the behavior and its context[8]. In this case, self-injury may be related to negative reinforcement, in which self injury is maintained or strengthened by the removal of the aversive stimulus of heat.

But the question is that why self injury, at this particular time, is serving this particular function, for this particular person. Indeed, hypersensitivity to thermal stimuli might be a reason behind it. No treatment has been

shown to be of general benefit in autism. Instead, certain therapies seem to work for certain symptoms. Medication may just mask or depress self-injury behavior, not addressing the actual cause of it[9].

Further studies should survey if thermal sensory processing is involved in self injury or adoption to environment.

Inability to process thermal stimuli or cope with thermal sensory stimulation might be a precursor of self injury in children with autism

Key words: Thermal pain; Autism; Self injury

References

1. Baranek GT, David FJ, Poe MD, et al. Sensory Experiences Questionnaire: discriminating sensory features in young children with autism, developmental delays, and typical development. J Child Psychol Psychiatry. 2006;47(6):591-601.
2. Cascio C, McGlone F, Folger S, et al. Tactile perception in adults with autism: a multidimensional psychophysical study. J Autism Dev Disord. 2008;38(1):127-37.
3. Baranek GT, Efficacy of sensory and motor interventions for children with autism. J Autism Dev Disord. 2002;32(5):397-422.
4. Ghanizadeh A. Does risperidone improve hyperacusia in children with autism? Psychopharmacol Bull. 2009;42(1):108-110.
5. Ghanizadeh A. Should tactile sensation impairment be considered in pharmacotherapy of pervasive developmental disorders? A case report. Neuro Endocrinol Lett. 2008;29(6):877-8.
6. Grandin T. An inside view of autism. In: Schopler E, Mesibov GB (eds). High functioning individuals with autism. New York: Plenum. 1992; Pp:105-26.
7. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th ed. American Psychiatric Association. 1994.
8. Weiss J. Self-Injurious behaviors in autism: a literature review. J Develop Disab. 2002; 9(2):129-43.
9. Posey DJ, Stigler KA, Erickson CA. Antipsychotics in the treatment of autism. J Clin Invest. 2008;118(1):6-14.