

Should tactile sensation impairment be considered in pharmacotherapy of pervasive developmental disorders? A case report

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Abstract It is a case report of improvement of tactile defensiveness after taking sertraline in a woman with major depressive disorder and Asperger's syndrome.

INTRODUCTION

Sensory processing impairments in autism are very frequent (Tomchek *et al.*, 2007; Leekam *et al.*, 2007). The sensory disturbance correlates with severity of autism in children, but not in adolescents and adults (Kern *et al.*, 2007). One of the sensory problems in pervasive developmental disorders is tactile defensiveness, a condition in which all or some types of touch are perceived as noxious and dangerous that can run from mild to severe. In words, there are certain areas of enhanced perception in autism (Cascio *et al.*, 2007). People with Asperger's syndrome are hypersensitive to touch (Blakemore *et al.*, 2006). They are intolerant of certain textures and find wearing certain materials aversive (Rogers, Hepburn, & Wehner, 2003). This finding has been described by Hans Asperger about more than half century ago and repeated frequently (Asperger, 1944). It is surprising that there is scanty empirical research on the sensitivity to touch in pervasive developmental disorders (Blakemore *et al.*, 2006). Even more, no study was found about the implication of this finding in pharmacotherapy management of these patients. One explanation for tactile defensiveness is enhanced response and slower habituation rates to a repeated tactile stimulus (Baranek & Berkson,

1994). Another explanation is enhanced processing of detailed stimuli (Bonnell *et al.*, 2003)

Sertraline is one of the most widely prescribed serotonin reuptake inhibitor antidepressants. Although sertraline is a selective inhibitor of serotonin, it has varied effects at various 5HT receptors such as the three major families of 5HT1A, 5HT2A/C, and 5HT3 (Stahl, 1998).

There are some reports that 5-HT(2C) receptors have a role in spinal inhibition of neuropathic pain in rats (Obata *et al.*, 2004; Obata *et al.*, 2001). Improvement with sertraline in men with chronic pelvic pain syndrome has been reported (Lee *et al.*, 2005). Serotonergic pathways are important in the perception of itch and sertraline was effective for treatment of pruritus due to chronic liver disease (Mayo *et al.*, 2007).

It is possible that this sensory pattern in pervasive developmental disorders has relevance for assessment and interventional practices. It is a case report of improvement of tactile defensiveness after taking sertraline in a woman with Asperger's syndrome.

CASE REPORT

S. Gh. is a 26 year old woman, educated with master degree, married, who referred to the child and adolescent psychiatric clinic for evaluation of her only 4 year old child. The mother and father were interviewed. His mother was suffering from depression, hopelessness, anhedonia, and significant impairment of function from about 1 year ago. So, she was diagnosed as a case of major depressive disorder. Her husband complained that she never wears cloths at home. She usually swaddles her buttock and lower abdomen in a clothe like a blanket all days and never wears any cloths at night. She emphasizes to sleep while she is completely undressed. She usually stays at home because she doesn't like to wear clothes. In the situations that she has to go out, for example to visit a doctor or going to university, she only wears cloths like a blanket that swaddles her from head-to-toe. She never wears any underwear clothes. This pattern was started from early childhood and had never improved. Although her parents were not interviewed, there was not found any developmental delay. Meanwhile, she is also a case of Asperger's syndrome. Sertraline was started with 25mg/day and increased to 75mg/day during 5 days. After one week from the initiation of the medication, she felt that she can wear clothes without that tactile defensiveness. She wore clothes at home and even at night without that sensation. She did not agree to discontinue the medication for trial of re-challenge.

DISCUSSION

This report is unique because there was not found any study that investigated the role of sensory impairment in autism pharmacotherapy. The rapid effect of desensitization to wearing clothes after taking of sertraline is probably related to the effect of sertraline. Although the patient was also suffering from major depression, it does not seem that this sensory problem relates to her depression. The sensory problem was started from early childhood, many years before initiation of her depression.

On the other hand, sertraline is a serotonin reuptake inhibitor antidepressant with varied effects at various 5HT receptors and there are some reports that 5-HT receptors have a role in spinal inhibition of neuropathic pain, chronic pelvic pain syndrome, and perception of itch. So, it is possible that sertraline effect on the serotonin receptors might have affected the tactile defensiveness of the patient.

Of course, this case report is rather descriptive and concerns only one patient. Further researches are necessary to study if there is any possible association. Therefore, this possible association will certainly be remained controversial until further evidence of a cause-and-effect relationship emerges in clinical trial studies with a greater number of patients. However, clinicians should be aware of this potential effect of sertraline. If future studies confirm this association, it is possible that this sensory pattern in pervasive developmental disorders would have relevance for interventional practices.

REFERENCES

- 1 Asperger H. (1944/1991). Die "autistischen psychopathen" in kind esalter. *Archive für Psychiatrie und Nervenkrankheiten*, **117**: 76–136. Translated by U. Frith (Ed.), *Autism and Asperger syndrome* (1991, pp. 37–92). Cambridge, UK: Cambridge University Press.
- 2 Baranek GT, Berkson G. Tactile defensiveness in children with developmental disabilities: Responsiveness and habituation. *J Autism Dev Disord*, 1994; **24**: 457–471.
- 3 Blakemore SJ, Tavassoli T, Calò S, Thomas RM, Catmur C, Frith U, Haggard P. Tactile sensitivity in Asperger syndrome. *Brain Cogn*, 2006; **61**: 5–13.
- 4 Bonnel A, Mottron L, Peretz I, Trudel M, Gallun E, & Bonnel AM. Enhanced pitch sensitivity in individuals with autism: A signal detection analysis *J Cogn Neurosci*, 2003; **15**: 226–235.
- 5 Cascio C, McGlone F, Folger S, Tannan V, Baranek G, Pelphrey KA, Essick G. Tactile Perception in Adults with Autism: a Multidimensional Psychophysical Study. *J Autism Dev Disord* 2008; **38**:127–137.
- 6 Kern JK, Trivedi MH, Grannemann BD, Garver CR, Johnson DG, Andrews AA, Savla JS, Mehta JA, Schroeder JL. Sensory correlations in autism. *Autism*, 2007; **11**, 123–34.
- 7 Lee RA, West RM, Wilson JD. The response to sertraline in men with chronic pelvic pain syndrome. *Sex Transm Infect*, 2005; **81**:147–9.
- 8 Leekam SR, Nieto C, Libby SJ, Wing L, Gould J. Describing the sensory abnormalities of children and adults with autism. *J Autism Dev Disord*, 2007; **37**: 894–910.
- 9 Mayo MJ, Handem I, Saldana S, Jacobe H, Getachew Y, Rush AJ. Sertraline as a first-line treatment for cholestatic pruritus. *Hepatology*, 2007; **45**: 666–74.
- 10 Obata H, Saito S, Sakurazawa S, Sasaki M, Usui T, Goto F. Antiallodynic effects of intrathecally administered 5-HT(2C) receptor agonists in rats with nerve injury. *Pain*, 2004; **108**:163–9.
- 11 Obata H, Saito S, Sasaki M., Ishizaki K, Goto F. Antiallodynic effect of intrathecally administered 5-HT(2) agonists in rats with nerve ligation. *Pain*, 2001; **90**: 173–9.
- 12 Rogers SJ, Hepburn S, & Wehner E. Parents reports of sensory symptoms in toddlers with Autism and those with other developmental disorders. *J Autism Dev Disord*, 2003; **33**: 631–642.
- 13 Stahl, S.M. Mechanism of action of serotonin selective reuptake inhibitors Serotonin receptors and pathways mediate therapeutic effects and side effects. *J Affect Disord*, 1998; **51**: 215–35.
- 14 Tomchekm SD, Dunn W. Sensory processing in children with and without autism: a comparative study using the short sensory profile. *Am J Occup Ther*, 2007; **61**: 190–200.