

Case Report

The Contribution of Osteopathy in the DERBBI Project For Autism. Case Report

Magda Di Renzo* and Alessandro Laurenti

Institute of Ortofonologia of Rome, Italy

*Corresponding author

Magda Di Renzo, Institute of Ortofonologia of Rome, Via Salaria 30-00198, Italy

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Abstract

In this report we will discuss how the osteopathic approach can support therapeutic intervention with children with Autism Spectrum Disorder. The osteopathic intervention precedes other interventions because it modifies the child's body structure and reduces some sensory disorders which often heavily aggravate the symptomatology. It is important to point out that the palpatory osteopathic evaluation of subjects with ASD differs from that of typically developing children. Since the "osteopathic rationale" adapts to the complexity of the disorder, it is not always possible to follow the palpatory diagnosis-treatment-retest scheme, and great flexibility is required on the part of the osteopath. Two children will receive the same diagnosis of ASD despite having different somatic and sensory characteristics, so the osteopathic treatment will never be standardized but on the contrary absolutely individualized.

In this Case Report will be discussed the case of a child with ASD of 4 years and 10 months, included in an multidisciplinary therapeutic project, which also included assessment and osteopathic intervention.

INTRODUCTION

In this report we will discuss how the osteopathic approach can support therapeutic intervention with children with Autism Spectrum Disorder (ASD). This intervention is included in the DERBBI [1], therapeutic project which uses the contribution of osteopathy in both the diagnostic and therapeutic phases. In some cases, like the one reported, the osteopathic intervention precedes other interventions because it modifies the child's body structure and eliminates some sensory disorders which so often heavily aggravate the symptomatology. It is important to point out that the palpatory osteopathic evaluation of subjects with ASD differs from that of normally developing children as it essentially depends on the characteristics highlighted during the initial observation and on the availability of the subject. In fact, it is possible to carry out palpatory tests while standing, sitting or lying down; palpatory tests allow us to highlight somatic dysfunctions and therefore the dysfunctional level, for example whether it is a structural or visceral dysfunction. Since the "osteopathic rationale" adapts to the complexity of the disorder, it is not always possible to follow the palpatory diagnosis-treatment-retest scheme, and great flexibility is required on the part of the osteopath.

Palpatory tests are indispensable in osteopathic palpatory diagnosis since the normalization techniques depend on them

and this has an essential value in the case of children, even more so in the presence of ASD. Using the wrong technique gives wrong information to the osteopath and to the patient who cannot benefit from the treatment. In the case of children with ASD, palpatory tests must be carefully chosen and weighted with respect to the body areas to be investigated, the testing timing and the touch used.

The effects of touch, widely studied, are positive if the conditions apply, and in the case of children with ASD these must be created through the construction of a suitable setting where the osteopath makes himself available and listens to the real needs conveyed by the body of child. Initially, tests will also help to evaluate the child's level of sensoriality, where the touch must have a modulatory effect and will therefore be different compared to the hyposensitive child. Furthermore, hypersensitivity is often associated with hyperactivity while, on the contrary, hyposensitivity is associated with hyporeactivity. Two children will receive the same diagnosis of ASD despite having different somatic and sensory characteristics, so the osteopathic treatment will never be standardized but on the contrary absolutely individualized.

CLINICAL CASE

Edoardo is a child of 4.10 years old, with a previous diagnosis

of ASD carried out in a public hospital, arrives at the Institute of Ortofonia of Rome for an assessment within the DERBBI (Development Emotional Regulation Body Based Intervention) therapeutic project, with a multi-specialist team (with many years of experience) where the osteopathic evaluation is also included.

The diagnosis of severity is therefore confirmed for him (Clinical evaluation and ADOS-2 Module 1 scores: AS=20+CRR=6). Spontaneous expressive language is globally absent as well as hetero-directed vocalizations. There are also deficits in social-emotional reciprocity and restricted, repetitive behaviours. Toe-walking and unusual sensory interests are present too and interfere with the use of objects which takes on manipulative, poorly functional characteristics (the Sensory Profile scores define a serious clinical condition). Tactile self-stimulation towards parts of the body (particularly the ear) and some self-harming behaviours are observed. Shared attention is labile and the gestural repertoire is poorly evolved (absence of indication). In the Emotional Contagion Test [2], a contagion-type response emerges which is evident above all to the "fear" stimulus in relation to which, even in the absence of body movements, a greater heart rhythm frequency is tested.

From the osteopathic observation, through objective and palpatory examination, a non-synostotic adaptive plagiocephaly emerges in right lateral strain and vertical strain, morphostructural conditions which according to the Argenta scale fall within level 3 [3], involving both the splanchnocranium and the viscerocranium as described below:

The internal face of the scale of the occipital bone is rotated to the left with respect to the vertical axis, the right temporal bone is anterior to the left with the right ear more anterior than the left, the right mandibular branch is more anterior than the left, the right parietal bone is more anterior than the left, the right portion of the frontal bone is more anterior than the left, the right zygomatic bone is more anterior respect to the left, the lambdoid and bregmatic sutures have a left posterior and right anterior diagonal orientation. The head is inclined to the left with respect to the neck, and the cervical spine is in flexion and in front of the dorsal spine.

Overall, the axial skeleton is rather rigid without the initial physiological curves typical of this age. The lower limbs do not present deformities and neither do the upper limbs.

The feet are also extremely stiff due to toe-walking.

From a motor point of view, there are the following difficulties: structural and functional masticatory dysfunction with alteration of the crossbite bite, deglutition is aphysiological, the masticatory muscles have a difference in tension evident upon palpation, the left masseter is definitely more contracted of the contralateral.

Through the global test of lengthening of the vertical axis performed in orthostatism it was possible to highlight the structural characteristics of some somatic dysfunctions; in

particular there is a mobility dysfunction at the level of the atlanto-occipital joint such that it is almost impossible to extend the head on the cervical spine, the stress of which causes a Moro reflex response not yet integrated with the hands that cling by hooking the other; this response is elicited with every movement.

In the postural passages, provoked for an evaluation of the postural reflex responses, the body stiffens and the Moro reflex immediately inhibits any action.

Edoardo does not explore the surrounding space autonomously and does not use plays in a functional way: he prefers to lie on the ground avoiding the prone position which immediately activates the Moro reflex; the continuous state of alert and the very high tactile sensory perceptive level contribute to making manual contact rather difficult.

It was therefore essential to adapt the osteopathic manual techniques useful for normalizing somatic dysfunctions.

In consideration of what emerged during the evaluation, with particular reference to the dysfunctional behaviours of the sensory area, an osteopathic intervention is primarily proposed to subsequently evaluate the areas on which it is most appropriate to direct the therapeutic intervention. A cycle of 5 sessions was proposed, on a weekly basis (lasting 45 minutes).

The treatment always took place in the same room, with the presence of the mother, through a form of body play such as being held or sitting on the floor with the bodies in contact with each other, taking care not to elicit the reflex of Moro.

The main objective was to normalize the craniocervical dysfunction at the level of the occipital condyles with respect to the first cervical vertebra, but since it was a dysfunction that caused Edoardo many difficulties at both sensory and motor level, it was necessary to create a good availability in the body through the normalization of somatic dysfunctions present in the dorsal and sternal areas.

Thanks to this work, during the fourth session, Edoardo lay down on the mat in a supine position for the first time in his life, always accompanied and supported by the osteopath's hands behind his head.

During the treatments it was also possible to dialogue with the mother, explaining some of Edoardo's behavioural re-actions as manifestations of his hypersensitivity.

To evaluate the change resulting from each treatment, the mother was asked for a weekly diary from which emerged the following aspects (in an increasingly evident manner during the treatment):

Behaviour and communication: increased vocalization;

Nutrition: clear improvement, because already from the second week Edoardo started eating new foods both at home and at school and started using cutlery;

Sleep: he no longer woke up at night and from the third week he started sleeping alone;

Relationship with objects: improved manipulation (started using puzzles and scissors);

Relationship with others: already from the second session the child began to play with other children, even letting himself be touched. He interacted more with his parents and with the various people who frequented the house, accepting contact in these cases too.

Before and after treatment, ABAS II [4], has been proposed to caregivers. From the questionnaire emerged an improvement in self-care, self-direction and social domains; then a global intervention including all the activities present in the DERBBI project was proposed to parents.

The notable progress in Edoardo, as is natural, modified the reactions of the people who took care of him, starting a virtuous circle that facilitated the attunement processes and allowed the expression of all the potential that the child had but was not able to use. The improvement that occurred thanks to the osteopathic treatment allowed a modulation of the tactile sensitivity perception on which the psychomotor intervention is even now working (and which will continue according to the DERBBI model). On the other hand, "the psychic condition or quality begins where the function loses its outer end inner determinism and becomes capable of more extensive and freer

application, that is, where it begins to show itself accessible to a will motivated from other sources" [5].

CONCLUSION

Edoardo's story allows us to reflect on those conditions, which are also present in ASD children and which can also be addressed with the help of osteopathy. In our experience with the DERBBI project we have verified that children with important sensory disorders linked also to somatic dysfunctions, achieve significant improvements with osteopathic intervention. Osteopathic intervention, in fact, allows to modulate the sensory response by preparing the child for a better receptivity to the therapeutic interventions that are proposed.

REFERENCES

1. Di Renzo M, Vanadia E, Petrillo M, Trapolino D, Racinaro L, Rea M, et al. A therapeutic approach for ASD: method and outcome of the DERBBI-Developmental, Emotional Regulation and Body-Based Intervention. *Int J Psychoanalysis Edu.* 2020; 12.
2. Di Renzo M, Bianchi di Castelbianco F, Petrillo M, Donaera F, Racinaro L, et al. The emotional contagion in children with autism spectrum disorders. *Austin J Autism Related Disabilities.* 2016; 2: 1-7
3. Argenta L. Clinical classification of positional plagiocephaly. *J Craniofac Surg.* 2004; 15: 368-372.
4. Harrison PL, Oakland T. *Adaptive Behavior Assessment System* (2nd ed.). Harcourt. 2003.
5. Jung CG. *Riflessioni teoriche sull'essenza della psiche. La dinamica dell'inconscio, Opere*, 8. Boringhieri, Milano. 1947.