The Use Of Transcranial Magnetic Stimulation In Autistic Spectrum Disorders With Predominance Of Speech Impairment

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Background and Aims:

The worldwide population prevalence Autism spectrum disorders (ASD) is about 1% (Meng-Chuan Lai et al., 2013). Symptoms of ASD include a violation of social interaction, interpersonal functions and atypical perception of information.
Thus, a possible correction includes a set of measures aimed at the maximum number of brain functions affected in the pathological process.
To assess the effectiveness of TMS when combined with standard therapy of ASD.

The mean CARS score dynamics in children with ASD

Methods:

Children diagnosed with ASD (N=8 mean age 7.25 ± 0.8), the clinical evaluation method and the Childhood Autism Rating Scale (CARS) scale were used. All children underwent a course of correction therapy with Speech-language pathologists and a development specialist (20 sessions per month), 4 children underwent 15 additional procedures rTMS.

Results:

CARS in the standard therapy group + TMS was significantly better (mean score at the beginning of therapy was 46.7 ± 6.4 compared to 38.7 ± 3.3 at the end), compared with the group where only standard correction methods were used (mean score at the beginning of therapy is 45.7 ± 4.9 vs. 42.2 ± 3.9)Subjective assessment of improvement in the standard therapy group + TMS by the parents was noted at 57 sessions, while in the other group (standard therapy) not earlier than the 15th session.

TMS parameters	Values
Area	DLPFC
Impulse Rate	10 Hz
Impulses in a train	30
Number of trains	50
Pause between trains	27 sec
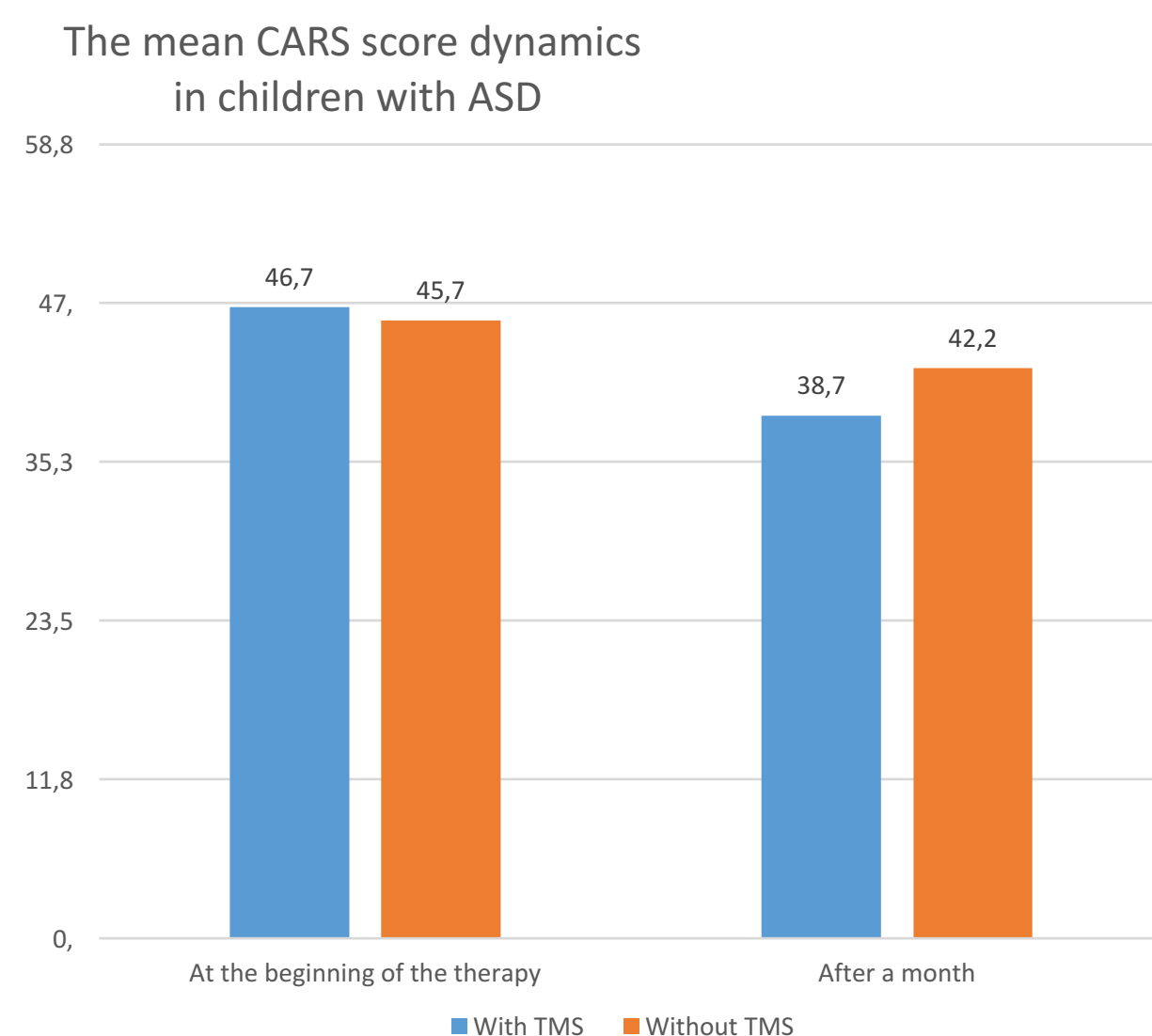
Conclusions:

The joint application of rTMS and standart therapy leads to a more rapid dynamics in the state of children with ASD. Mainly due to the improvement of speech function, greater concentration and ordering of behavior.