

**Supplementary Table**

Case #	Pregnancy, parturition and a child in the first months of life	Previously used medications and therapies	ASD symptoms according to DSM-5 and related symptoms	Results of blood tests before treatment	Results of blood test after treatment	Changes in behavior after treatment and side effects
1. Male, 6 years old	<p>Pregnancy: Low placenta, chronic pyelonephritis (the 1st trimester), respiratory infection, pre-eclampsia of mild degree, Herpes labialis infection and placental insufficiency.</p> <p>Parturition: At week 29<sup>th</sup> by cesarean section for bleeding, premature detachment of placenta, child was born with hypoxia, jaundice and respiratory distress syndrome, was diagnosed with CNS damage, intraventricular hemorrhage, retinopathy and CMV infection.</p>	<p>Medications: Pantocalcin, Encephabol, Phenibut, Cogitum, Cortexin, Magne B6, Neuromultivit;</p> <p>Corrective therapies: Pedagogical and psychological corrective work;</p> <p>Alternative therapies: bioacoustic correction (BAC), acupuncture, logomassage and neck massage.</p>	<p>Severe language impairment, severe social communication problems and severe repetitive movements and restricted behavior, was able to speak only a few words, unable to communicate with peers, could not study on his own.</p>	<p>Infections: IgG to EBV (NA), CMV, rubella virus and H. pylori;</p> <p>Red and white blood cells: Erythrocytosis, neutropenia, increased RDW;</p> <p>Immunity: reduced T-lymphocytes and T-helper count, increased T-suppressor and NK cells counts, reduced ratio T-helper/T-suppressor.</p>	<p>After 120 days of treatment:</p> <p>Infections: IgG to CMV and rubella virus significantly reduced, H. pylori IgG levels are within reference range.</p> <p>Red and white blood cells: Erythrocytosis and neutropenia</p> <p>Immunity: Reduced T-lymphocytes, B-lymphocytes and T-helper count, increased T-suppressor and NK cells counts, reduced ratio T-helper/T-suppressor, increased NK cell count.</p>	<p>After 120 days of treatment: Significantly increased vocabulary; became capable of expressing new requests, slightly improved understanding of addressed speech, reduced repetitive movements, improved behavior, reduced anxiety and hyperactivity, started playing with toys, became more artistic, sings songs, learning process became easier</p> <p>Side effects: None</p>
2. Male, 12 years old	<p>Pregnancy: Respiratory infection in the first trimester and the risk of miscarriage in the second and third trimester.</p> <p>In the first year of life: The child was unusually quiet and passive.</p>	<p>Medications: Nootropic drugs;</p> <p>Corrective therapies: Speech therapist, defectologist.</p>	<p>Speech development delay, moderate restricted and repetitive behavior and moderate social communication problems. speech development does not correspond to his age, impaired eye contact, having problems with understanding of addressed speech and nonverbal communication, unable to communicate with peers, repetitive movements, hyperactivity, sleep deprivation and excessive weight.</p>	<p>Infections: IgG to CMV, HSV, EBV, Mycoplasma and H. pylori;</p> <p>Red and white blood cells: Erythrocytosis, increased hematocrit, mean corpuscular hemoglobin (MCH) and red cells distribution by width (RDW).</p> <p>Immunity: Reduced CD4/CD8 ration</p>	<p>After 90 days of treatment:</p> <p>Infections: IgG to CMV significantly reduced, IgG to H. pylori and Mycoplasma became within reference ranges, IgG to HSV and EBV slightly increased.</p> <p>Red and white blood cells: Level of erythrocytes became lower and approached the reference range, increased hemoglobin, hematocrit, RDW, MCH - within reference range,</p> <p>Immunity: All immune cells within reference ranges</p>	<p>After 90 days of treatment: New words appeared in his vocabulary and he started speaking more, the speech became clearer. The child started to build sentences and to express verbally if he did not like something, improved understanding, reduced illogical statements and repetitive movements, reduced hyperactivity, his writing skills also improved. He also lost weight (from size L to M).</p> <p>Side effects: None</p>

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3. Male, 4 years old	<p>Pregnancy: at the first trimester there was a risk of miscarriage.</p> <p>Parturition: was stimulated, the child was born with jaundice;</p> <p>In the first year of life: The child was very calm, did not need any attention</p>	<p>Medications: Cortexin, Pantocalcin, Pantogam, Magnesium B6, Cogitum, Iodomarine, Ursofalk;</p> <p>Corrective therapies: Speech therapy, defectologist, psychological therapy, play therapy, exercise therapy;</p> <p>Alternative therapies: Massage, manual therapy and transcranial micropolarization.</p>	<p>Nonverbal, had severe social communication problems, repetitive movements and signs of restricted behavior. aggressive behavior and difficulties with communication, excessive focus on some objects, stereotypical running, frequent respiratory infections.</p>	<p>Infections: IgG to CMV, EBV (VCA) and rubella virus;</p> <p>Red and white blood cells: Erythrocytosis, lymphocytosis, monocytosis, and increased hematocrit;</p> <p>Immunity: Reduced ratio T-helper/T-suppressor.</p>	<p>After 90 days of treatment:</p> <p>Infections: IgG to CMV decreased;</p> <p>Red and white blood cells: No changes;</p> <p>Immunity: Decreased T-lymphocyte count and reduced ratio T-helper/T-suppressor.</p>	<p>After 90 days of treatment: Increased vocabulary, short sentences appeared, said if he wants something, started singing songs, became more communicative, improved eye contact and nonverbal communication, improved understanding, he started to think logically, reduced repetitive behavior, improved attention, and cognitive function he became more calm, improved immunity.</p> <p>Side effects: Tearfulness in the first week of treatment</p>
4. Male, 5 years old	<p>Pregnancy: Prolonged pregnancy;</p> <p>Parturition: Through cesarean section, the child was born with hypoxia;</p> <p>At the first year of life: The child was unusually quiet and did not need attention.</p>	<p>Corrective therapies: Psychological therapy and defectologist, speech therapy, ABA therapy and reflexotherapy.</p>	<p>Dramatically decreased speaking ability, lack of vocabulary, unwillingness to speak, difficulties in understanding addressed speech, lack of interest in peers, severe difficulties with social communication and obsessive and fixated behavior, fixations, anxiety and selectivity of food.</p>	<p>Infections: IgG to CMV, EBV, HSV and rubella virus;</p> <p>Red and white blood cells: Lymphocytosis, increased hemoglobin, increased mean corpuscular volume (MCV) and MCH, neutropenia;</p> <p>Immunity: decreased T-helpers count, increased B-lymphocytes count and T-lymphocytes count.</p>	<p>After 45 days of treatment:</p> <p>Infections: HSV status became negative, IgG to CMV, EBV, rubella virus reduced.</p> <p>Red and white blood cells: Levels of hemoglobin, MCV, and MCH did not change, the level of lymphocytes decreased, the level of neutrophils increased;</p> <p>Immunity: All immune cells parameters became within reference ranges.</p>	<p>After 45 days of treatment: More constructive speech, attempts to speak more, better understanding and memorization. He became more initiative in classes, and less aggressive. Started expressing pity, became more attached to family members, the sense of timing appeared. Started trying new types of food.</p> <p>Side effects: Reduced appetite in the first two weeks of treatment.</p>
5. Male, 4 years old.	<p>Pregnancy: Risks of miscarriage several times during pregnancy;</p> <p>At the first year of life: The child was unusually quiet, rarely cried, had operation for hydrocele at age of 7 months.</p>	<p>Corrective therapies: Tomatis therapy, ABA therapy, speech therapy, body-oriented and exercise therapy;</p> <p>Alternative therapies: Homeopathic therapy and lactose-free and gluten-free diet.</p>	<p>Significantly reduced speaking ability, few words in the speech, moderate problems with social communication, impaired eye contact, lack of interest to peers, illogical statements in conversation, ritual behavior, repetitive movements, frequent constipations</p>	<p>Infections: IgG to rubella virus and HSV;</p> <p>Red and white blood cells: Erythrocytosis, monocytosis, decreased mean platelet volume (MPV), increased sedimentation rate (ESD);</p> <p>Immunity: increased T-lymphocytes and T-suppressors counts.</p>	<p>After 120 days of treatment:</p> <p>Infections: IgG to rubella reduced, IgG to HSV did not change;</p> <p>Red and white blood cells: Erythrocytosis, thrombocytosis, increased MPV, lymphocytosis, eosinophilia, monocytes count, MPV and ESD became within a reference range</p> <p>Immunity: Decreased B-lymphocytes count, all other cells – within reference ranges</p>	<p>After 120 days of treatment: Began to speak more clearly, and consciously, began to fool around, tries to play with the computer, began to joke, became more self-dependent, more open. He participated in a dialogue for the first time. His physical skills improved, increased sociability in relation to other children, an interest in spending time with children appeared. The stool became more frequent, started to use toilet by himself.</p> <p>Side effects: Diarrhea during first 3 days of treatment</p>

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6. Male, 8 years old	The parents did not answer the questions regarding pregnancy, parturition and first months of the child's life.	Medications: Valtrex, Viferon, supplements.	Significantly reduced speaking ability, knew just few words, communicated through PECS cards only, severe problems with social communication, did not communicate with others, confused emotions, repetitive and restricted behavior of the severe level, repetitive jumping and knocking, hypersensitivity, anxiety, hyperactivity and frequent respiratory infections	Infections: IgG to CMV and rubella virus;  Red and white blood cells: Decreased MPV and MCV, monocytosis, erythrocytosis;  Immunity: Reduced ratio T-helper/T-suppressor	After 90 days of treatment:  Infections: IgG to CMV and rubella virus slightly increased;  Red and white blood cells: MPV decreased, erythrocytes and MCV – within reference range, monocytes count did not change. Some blood cells changed beyond the normal values: neutrophils decreased, eosinophils and lymphocytes increased.  Immunity: Was not tested.	After 90 days of treatment: Started to understand requests and to communicate with other children, he says “bye” to children when they finish playing and became more tender and emotional to parents. the sleep significantly improved. Stool improved, constipations stopped. His resistance to respiratory infections also improved. Side effects: Rash during the first course of treatment.
7. Male, 2.5 years old	Pregnancy and parturition: Were not complicated, according to parents.  In the first year of life: The child was very quiet, rarely cried, had frequent respiratory infections.	Medications: Cogitum, Cortexin, multivitamins Lysate and Omega 3;  Corrective therapy: Speech therapy, psychological therapy, defectologist and play therapy;  Alternative therapies: Bioacoustic correction	Significantly reduced speaking ability, few words in vocabulary, inappropriate usage of words, noticeable difficulties with social communication, impaired eye contact, preference to stay alone, ignoring other people, mild repetitive behavior.	Infections: IgG to rubella virus;  Red and white blood cells: All white and red blood cells counts were within reference ranges;  Immunity: Decreased T-lymphocytes, T-helpers counts and reduced ratio T-helper/T-suppressor, increased B-lymphocytes and T-suppressors counts.	After 90 days of treatment:  Infections: IgG to rubella increased;  Immunity: All immune cells apart from T-suppressors were at a normal value.	After 90 days of treatment: Vocabulary increased, contact with other people improved, he started to react to other people's questions and understands other people better. Overall communication has improved became interested in other children, speaks consciously, repeatability of movements decreased, nonverbal communication improved, became more interested in drawing, improved immunity.  Side effects: Headache during the first 12 days of treatment
8. Female, 5 years old	Pregnancy: Risk of miscarriage, bleeding,  Parturition: Immature birth at 36th week with hypoxia. After birth the child had jaundice and was diagnosed with megalothymus.  At the first year of life: Long sleep, was unusually calm, ignored people, was afraid of noises	Medications: Cortexin, Encephabol, Pantocalcin, Noofen, Biomed. Glutamine, Gabu, Omega 3, and some vitamins and minerals;  Corrective therapy: ABA therapy;  Alternative therapy: Gluten-free, casein-free, soy-free diet	Moderate language impairment, limited vocabulary, rare speech, severe social communication problems, absence of any communication, difficulties in understanding addressed speech, no expression of emotions, severe restricted and repetitive behavior, impaired eye contact, echolalia, repetitive behavior, hypersensitivity, hyperactivity and selectivity of food.	Infections: IgG to EBV (NA), CMV, and rubella virus;  Red and white blood cells: Increased RDW and ESD;  Immunity: increased T-suppressor count and decreased NK count.	After 90 days of treatment:  Infections: IgG to EBV reduced, IgG to rubella virus and CMV did not change;  Red and white blood cells: RDW did not change, ESD was within the reference range, neutrophils decreased below the reference value;  Immunity: T-suppressors increased, NK cells became of a reference value, T-helper count decreased below the reference range.	After 90 days of treatment: Vocabulary increased started to build phrases, and repeat some new words, became more responsive when people talked to her. Eye contact improved, started playing with siblings, became calmer, started studying at home (before treatment she could not due to hyperactivity), learned to use the toilet by herself and tried new types of food which she had refused to try before.  Side effects: Tearfulness during the first 10 days

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9. Male, 5 years old	<p>Pregnancy: Respiratory infection (3<sup>rd</sup> trimester).</p> <p>At the first year of life: The child was unusually quiet, rarely smiled or laughed, had frequent respiratory infections.</p>	<p>Medications: Ganglioside, Cortexin, Ceraxon, Cerebrolysin, Gliatilin, Pantogam, Noofen, Mexidol, Encephabol; probiotics, supplements;</p> <p>Alternative therapy: Gluten-free casein-free diet; acupuncture and micropolarization</p>	<p>Significantly reduced speaking ability, only few words in vocabulary, rare usage of speech, severe problems with social communication, difficulties with understanding addressed speech and other people's behavior, impaired eye contact, restricted behavior and focusing on some objects, anxiety and selectivity of food.</p>	<p>Infections: IgG to EBV (NA) and rubella virus;</p> <p>Red and white blood cells: Neutropenia and increased ESD;</p> <p>Immunity: decreased T—lymphocytes, T-helper counts, reduced T-helper/T-suppressor ratio, increased T-suppressor and NK cells counts.</p>	<p>After 120 days of treatment:</p> <p>Infections: IgG to EBV (NA) and to rubella reduced;</p> <p>Red and white blood cells: Neutrophils count did not change, ESD became within reference value.</p> <p>Immunity: T-suppressors, and ratio T-helpers/T-suppressors did not change, all other immune cells became of a reference ranges</p>	<p>After 120 days of treatment: Vocabulary increased, for the first time said a full sentence, started using words and phrases appropriately, communicative skills improved, became more tender, expresses love towards family members, started communicating with other children. Parents as well as teachers noticed that he became calmer, hysterias occurred only rarely, and instead he argued with words to show his unwillingness to do something, but calmed down very soon, vocalizations stopped, eye contact improved, muscle strength increased, started trying new types of food and had an improved appetite, if parents behave aggressively started to respond with aggression too.</p> <p>Side effects: Tearfulness during the first week of treatment.</p>
10. Male, 5 years old	<p>The parents did not answer the questions regarding pregnancy, parturition and first months of the child's life.</p>	<p>Medications: Omega-3;</p> <p>Corrective therapy: Tomatis therapy, psychological therapy, speech therapy, defectologist, exercise therapy, hippotherapy;</p> <p>Alternative therapy: Homeopathy, BAC, acupuncture.</p>	<p>Mild language impairment, scanty speech, echolalia, repetition of question before answering, echolalia, severe problems with social communication and understanding, ignored other people, unrelated answers, impaired eye contact, had signs of compulsive-obsessive behavior and mild restricted and repetitive behavior, sequencing, ritualism and hyperactivity.</p>	<p>Infections: IgG to CMV, HSV, and to EBV (EBNA);</p> <p>Red and white blood cells: Erythrocytosis, thrombocytosis, neutrophilia, eosinophilia, lymphocytosis, increased hematocrit, RDW, and ESD;</p> <p>Immunity: Reduced T-helpers/T-suppressors ratio.</p>	<p>After 120 days of treatment:</p> <p>Infections: IgG to CMV did not change, IgG to HSV and IgG to EBV reduced significantly;</p> <p>Red and white blood cells: Thrombocytes, neutrophils, eosinophils, erythrocytosis and ESD became within reference ranges, hematocrit, RDW and lymphocytes count did not change;</p> <p>Immunity: T-helpers/ T-suppressors ratio reduced, B-lymphocytes and T-helper counts reduced below the reference range.</p>	<p>After 120 days of treatment: Vocabulary increased, started using speech more often, remembered the words that he had learned before the regression, builds phrases, started answering to questions more consciously, understanding of addressed speech improved, expresses an interest to other children, starts to understand how to communicate with peers, socialization has improved. Nonverbal communication improved, in his responses understanding and adequacy appeared. Memory has improved – he remembers some situations, tells how his day was.</p> <p>Side effects: None</p>

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11. Male, 5 years old	<p>Pregnancy: Was not complicated</p> <p>Parturition: The child was born with hypoxia.</p> <p>At the first year of life: The child was unusually calm, did not need attention, did not feel pain</p>	<p>Corrective therapy: Speech therapy, defectologist, psychological therapy;</p> <p>Alternative therapy: Microcurrent reflexotherapy, osteopathy, massage, acupuncture</p>	<p>Significantly reduced speaking ability, only few learned words severe social communication problems, inability to communicate with other children, absence of dialogues, impaired eye contact, mild repetitive and restricted behavior, problems with understanding, hyperactivity, anxiety and frequent respiratory infections</p>	<p>Infections: IgG to EBV and rubella virus;</p> <p>Red and white blood cells: Decreased MCH, increased RDW and trombocrit;</p> <p>Immunity: Decreased T-lymphocytes, T-helper, T-suppressor, B-lymphocyte counts.</p>	<p>After 90 days of treatment:</p> <p>Infections: IgG to rubella virus and EBV decreased;</p> <p>Red and white blood cells: Decreased MCH, increased RDW, trombocrit and ESD, basophilia;</p> <p>Immunity: T-lymphocytes became within reference ranges, other immunity cells without changes.</p>	<p>After 90 days of treatment: Started actively trying to repeat some new words and to talk more, first full sentences appeared, eye contact improved, improved understanding, motor skills improved. During the treatment, the child had respiratory infection, and the process of recovery was easier and quicker.</p> <p>Side effects: None</p>
12. Male, 4 years old	<p>Pregnancy: Respiratory infection in the 2<sup>nd</sup> trimester</p> <p>Parturition: Stimulated;</p> <p>At the first year of life: The child was restless, often cried, did not look into eyes, and had sleep deprivation, was looking for parents only when was hungry.</p>	<p>Medications: Cortixin, Pantocalcin, Cerebrum, Gammalon, Noofen, Maganerot, Phenotropil; Psychological therapy, defectologist, Tomatis therapy, ABA-therapy, exercise therapy, play therapy.</p> <p>Corrective therapy: ABA therapy, Montessori method, speech therapy;</p> <p>Alternative therapy: massage, microcurrent reflexotherapy.</p>	<p>Moderate language impairment, reduced vocabulary, mild restricted and repetitive behavior, moderate difficulties with social communications, difficulties with understanding addressed speech, preference to stay alone, hyperactivity, anxiety, frequent hysterias.</p>	<p>Infections: IgG to rubella virus, EBV (NA) and Toxoplasma</p> <p>Red and white blood cells: Neutropenia;</p> <p>Immunity: Increased T-suppressor count, decreased NK cells count and T-helper/T-suppressor ratio.</p>	<p>After 60 days of treatment:</p> <p>Infections: IgG to Toxoplasma decreased to a reference range, IgG to rubella virus and EBV did not change significantly;</p> <p>Red and white blood cells: Erythrocytosis, neutropenia;</p> <p>Immunity: Decreased T-lymphocyte, T-helper counts, T-helper/T-suppressor ratio, increased T-suppressor count.</p>	<p>After 60 days of treatment: Increased vocabulary, improved understanding, improved memorization, started answering simple questions.</p> <p>Side effects: None</p>
13. Female, 3 years old	<p>Pregnancy: Respiratory infection (2<sup>nd</sup> trimester), low hemoglobin;</p> <p>Parturition: Long anhydramniotic period. The child was born with hypoxia.</p> <p>At the first year of life: The child was restless, cried a lot, frequent respiratory infections.</p>	<p>Medications: Cortixin, Pancalcin, Efalex, Vitamins B;</p> <p>Alternative therapy: Microcurrent reflexotherapy</p>	<p>Significantly reduced speaking ability, few words in the vocabulary, inability to speak clearly, severe social communication problems, difficulties with understanding of addressed speech, difficulties in expressing emotions, mild restricted and repetitive behavior, anxiety, hyperactivity, and claustrophobia</p>	<p>Infections: IgG to rubella virus, EBV and CMV;</p> <p>Red and white blood cells: Neutropenia, increased RDW;</p> <p>Immunity: B-lymphocyte, T-suppressor counts are increased, NK cells count is decreased.</p>	<p>After 60 days of treatment</p> <p>Infections: IgG to all detected viruses slightly increased;</p> <p>Red and white blood cells: Increased RDW, all other cells within reference ranges;</p> <p>Immunity: Increased B-lymphocyte and T-suppressor counts.</p>	<p>After 60 days of treatment: The understanding of speech improved, the child became more self-dependent, claustrophobia stopped.</p> <p>Side effects: Tearfulness in the beginning of the treatment.</p>

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14. Male, 8 years old	Parents did not provide the information on pregnancy, parturition and first months of the child's life.	Corrective therapy: ABA therapy, exercise therapy, massage, speech therapy, psychological therapy, manual therapy, and Tomatis therapy.	Mild language impairment, short phrases with wrong construction, severe social communication problems, misunderstanding of how to communicate with other people, inadequate reaction when interest towards him is demonstrated, moderate restricted and repetitive behavior, signs of obsessive-compulsive syndrome, sleep deprivation, anxiety, hyperactivity and selectivity of food.	Infections: IgG to rubella virus, EBV, VZV, and CMV;  Red and white blood cells: Leukopenia, eosinophilia,  Immunity: Reduced T-helper count and reduced T-helper/T-suppressor ratio.	After 90 days of treatment:  Infections: IgG to EBV reduced by 13 times, IgG to rubella increased slightly, IgG to CMV did not change;  Red and white blood cells: Erythrocytosis, monocytosis, increased RDW, leukocytes and eosinophils – within reference ranges;  Immunity: Reduced T-helper/T-suppressor ratio, all other immune cells within reference ranges.	After 90 days of treatment: Speech became more complicated – new phrases, sentences, which became more grammatically correct, started giving full answers, improved understanding, pronunciation became more clear, repetitive behavior notably decreased, eye contact improved – often looks and for long, became more sociable, plays more often with other children and started to initiate games by himself, sleep is better – falls asleep much faster started trying new types of food.  Side effects: None
15. Male, 7 years old	Pregnancy: respiratory infection (the 2nd trimester);  Parturition: the child was born with asphyxia;  At the first year of life: The child was unusually quiet from the first days of life, fell asleep by himself, did not need attention, had frequent respiratory infections.	Medications: Pantogam, Cortexin, Tenoten, Mexidol, Depakin, Gliatilin, Sturegon;  Alternative therapy: Massage, microcurrent reflexotherapy	Severe language impairment, no speech, severe repetitive and restricted behavior, difficulties regarding communication, misunderstanding of the addressed speech, misunderstanding of how to communicate with other people, problems with nonverbal communication; Selectivity of food and hypersensitivity	Infections: IgG to CMV, EBV, HSV and rubella virus;  Red and white blood cells: Erythrocytosis, neutropenia, basophilia, lymphocytosis, increased MCV;  Immunity: All immune cells – within reference ranges.	After 150 days:  Infections: IgG to rubella virus and CMV increased, IgG to EBV and HSV decreased;  Red and white blood cells: Erythrocytes count became within reference range, MPV decreased, increased leukocytes, all other parameters did not change,  Immunity: All cells within reference ranges	After 150 days: For the first time said phrase “I will”, he became attached to his favorite toy, he takes it everywhere – before he did not have, started to repeat new words, became more attentive, empathy appeared.  Side effects: None
16. Male, 5 years old	Pregnancy: CMV infection Parturition: The child was born with asphyxia due to umbilical cord vein. At the first year of life: The child was unusually quiet, could lay by himself for a long time	Alternative therapy: Gluten-free, casein-free diet, microcurrent reflexotherapy	Moderate language impairment, undeveloped speech, inability to build phrases, moderate social communication problems, misunderstanding of how to communicate with others, restricted and repetitive behavior, hypersensitivity and severe hyperactivity	Infections: IgG to CMV, EBV and rubella virus; EBV, CMV and HSV were detected using PCR method;  Red and white blood cells: Increased hematocrit and mean corpuscular hemoglobin concentration (MCHC), decreased platelet distribution width (PDW), neutropenia and basophilia;  Immunity: Increased NK cells count, decreased B-lymphocytes count, reduced T-helpers/T-suppressors ratio.	After 120 days of treatment: Infections: IgG to EBV and CMV decreased, IgG to rubella increased;  Red and white blood cells: PDW, neutrophils count, and basophils count were within reference ranges, hematocrit, MCHC did not change, erythrocytosis, thrombocytosis, decreased MPV.  Immunity: All parameters are within reference ranges, apart from reduced T-helpers/T-suppressors ratio.	After 120 days of treatment: The speech became more clear, new complex sentences appeared, vocabulary increased, started asking questions, became more sociable, tries to initiate games, more attentive to other children, understanding of addressed speech improved, eye contact became more conscious, hearing sensitivity reduced, became calmer, new skills appeared: drawing, singing.  Side effects: None

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17. Male, 3 years old	<p>Pregnancy: Risk of miscarriage (the 1st trimester);</p> <p>Parturition: The child was born with hypoxia;</p> <p>At the first year of life: The child was very quiet, rarely cried.</p>	<p>Alternative therapy: Microcurrent reflexotherapy.</p>	<p>Severe language impairment, absence of speech, severe difficulties with social communication, impaired eye contact, ignoring other people, lack of interest to other children, inability to express emotions, severe repetitive and restricted behavior.</p>	<p>Infections: IgG to CMV;</p> <p>Red and white blood cells: Erythrocytosis, neutropenia, lymphocytosis, decreased MCH;</p> <p>Immunity: All parameters were within reference ranges.</p>	<p>After 90 days of treatment:</p> <p>Infections: IgG to CMV decreased by 77 times;</p> <p>Red and white blood cells: Erythrocytes, lymphocytes count became within reference ranges, neutropenia, basopenia, decreased MCHC, increased RDW</p> <p>Immunity: Was not tested.</p>	<p>After 90 days of treatment: Vocabulary increased, started to understand addressed speech, became calmer, and a sense of empathy appeared, echolalia decreased.</p> <p>Side effects: None</p>
18. Male, 3 years old	<p>Pregnancy: Respiratory infection (the 2<sup>nd</sup> trimester).</p> <p>At the first year of life: The child was unusually quiet, rarely pronounced any sounds, and even if cried did it very quietly.</p>	<p>Medications: Cerebrolysin, Ceraxon, Pantocalcin, Pantogam, Tenoten, Encephabol, Noofen, Gliatylin;</p> <p>Corrective therapy: Speech therapy, osteopathy;</p> <p>Alternative therapy: BAC, transcranial polarization</p>	<p>Severe language impairment, absence of speech, only separate sounds, severe problems with social communication, misunderstanding of how to play and communicate with other children, reduced spectrum of emotions, preference to be separate from peers, impaired eye contact, mild repetitive and restricted behavior, stereotypical games, reduced sensitivity, frequent GI and respiratory tracts disorders.</p>	<p>Infections: IgG to rubella virus, CMV, EBV, HSV and Mycoplasma;</p> <p>Red and white blood cells: Erythrocytosis, neutropenia, lymphocytosis, eosinophilia, decreased MCH, MCV, and increased RDW;</p> <p>Immunity: Decreased B-lymphocytes count.</p>	<p>After 120 days of treatment:</p> <p>Infections: IgG to EBV, CMV and rubella did not change significantly, IgG to HSV and mycoplasma – within reference ranges;</p> <p>Red and white blood cells: No change, apart from his eosinophils and neutrophils count, which became within reference range;</p> <p>Immunity: Decreased T-lymphocytes and T-helper/T-suppressor ratio</p>	<p>After 120 days of treatment: Became more communicative, started to use gestures for communication, constructs dialogues in that way, learned new sounds, pronounces them with intonation, tries to say some words, started playing with other children, imitates others, reacts to and understands addressed speech, improved eye contact, does not focus that much on objects, disappointed when parents go to work, became more self-dependent and attached to family members, helps mother, memorization improved, sleeps better, started trying new types of food. Side effects: None</p>
19. Male, 2 years old	<p>Parents did not provide the information of pregnancy, parturition and first year of the child's life.</p>	<p>Corrective therapy: Speech therapy, correctional therapy;</p> <p>Alternative therapy: Massage, gluten-free, lactose-free diet,</p>	<p>Severe language impairment, absence of speech, moderate problems with social communication, no understanding of addressed speech, misunderstanding of how to communicate with others, ignoring others, mild repetitive and restricted behavior, pronounced hyperactivity, gastrointestinal tract disorders.</p>	<p>Infections: EBV was found in saliva using PCR method;</p> <p>Red and white blood cells: Neutropenia, lymphocytosis;</p> <p>Immunity: Decreased t-helper, T-suppressor counts and reduced T-helpers/T-suppressors ratio.</p>	<p>After 45 days of treatment: Infections: were not tested;</p> <p>Red and white blood cells: Neutrophils and lymphocytes counts were within reference ranges, monocytosis;</p> <p>Immunity: T-helpers count, and T-helpers/ T-suppressors ratio were within reference ranges. T-suppressors and B-lymphocytes counts decreased.</p>	<p>After 45 days of treatment: Started to repeat more words after parents, behavior improved, understanding of addressed speech improved, if people around start laughing, he laughs too.</p> <p>Side effects: Diarrhea in the first course</p>

Case #	Pregnancy, parturition and a child in the first months of life	Previously used medications and therapies	ASD symptoms according to DSM-5 and related symptoms	Results of blood tests before treatment	Results of blood test after treatment	Changes in behavior after treatment and side effects
20. Male, 15 years old	<p>Pregnancy: Respiratory infection in the 1st trimester;</p> <p>Parturition: Stimulated, child was born with asphyxia, hypoxia;</p> <p>At first year of life: The child was restless, cried a lot, could not sleep well.</p>	<p>Medications: Phenotropil, Pantocalcin,</p> <p>Corrective therapy: Psychological therapy, exercise therapy, speech therapy; Alternative therapy: Transcranial micropolarization</p>	Moderate language impairment, illogical statements, focus on some topics, restrictive, ritualistic behavior, stereotypic behavior, severe social skills impairments, inability to communicate with peers, sleep problem, gastrointestinal tract diseases, anxiety.	<p>Infections: IgG to rubella virus, EBV, CMV;</p> <p>Red and white blood cells: Neutropenia, eosinophilia, increased RDW;</p> <p>Immunity: Increased T-suppressor count, decreased T-helper/T-suppressor ratio</p>	<p>After 60 days of treatment:</p> <p>Infections: IgG to rubella – within reference range, IgG to EBV and CMV significantly decreased;</p> <p>Red and white blood cells: Neutropenia, lymphocytosis,</p> <p>Immunity: Reduced T-helpers/T-suppressors ratio and NK cells count, increased B-lymphocytes, T-helpers counts.</p>	<p>After 60 days of treatment: Improved eye contact, attempts to communicate with family members.</p> <p>Side effects: Worsening of behavior during the first days of treatment.</p>
21. Male, 4 years old	<p>Pregnancy: Respiratory infection in the 1st trimester, CMV infection in the 2nd trimester;</p> <p>Parturition: Hypoxia and umbilical cord casing;</p> <p>At first year of life: the child was unusually quiet, frequent respiratory infections.</p>	<p>Medications: Cerebrolysin, Cortexin, supplements;</p> <p>Corrective therapy: ABA therapy, sensory therapy, dolphin therapy, osteopathy.</p>	Severe language impairment, few words in speech, rarely used speech, severe social communication problems, did not understand addressed speech, preferred to stay alone, severe repetitive and restricted behavior, hyperactivity, hyposensitivity, sleep and gastrointestinal problems.	<p>Infections: IgG to Mycoplasma, CMV, EBV, and rubella virus</p> <p>Red and white blood cells: Thrombocytosis, erythrocytosis, lymphocytosis, increased RDW, and ESD, decreased MCV, MCH, and MPV</p> <p>Immunity: Reduced T-helpers/T-suppressors ratio.</p>	<p>After 30 days of treatment:</p> <p>Infections: IgG to Mycoplasma – within reference ranges, IgG to EBV and rubella decreased, IgG to CMV slightly decreased</p> <p>Red and white blood cells: Erythrocytosis, increased RDW and ESD, decreased MCH, all other cells – within reference ranges</p> <p>Immunity: Reduced T-helpers/T-suppressors ratio and T-helper cells count.</p>	<p>After 30 days of treatment: Social communication skills improved, eye contact improved, shows emotions by eyes, behavior improved, started trying new types of food, muscle strength increased, became more self depended, started using toilet by himself.</p> <p>Side effects: Insomnia and tearfulness during the first week of treatment.</p>
22. Female, 2 years old	<p>Pregnancy: Premature rupture of membranes;</p> <p>Parturition: No complications;</p> <p>At first year of life: No peculiarities.</p>	No treatments of therapies have been administered before	Severe language impairment, absence of speech, severe restricted and repetitive behavior, does not communicate with others, hyperactivity, sleep problems.	<p>Infections: IgG to rubella virus, CMV, EBV,</p> <p>Red and white blood cells: Erythrocytosis, lymphocytosis.</p> <p>Immunity: All immune cells within reference ranges</p>	<p>After 90 days of treatment:</p> <p>Infections: No changes</p> <p>Red and white blood cells: All indices are within reference ranges</p> <p>Immunity: Reduced T-helpers/T-suppressors ratio and B-lymphocytes count.</p>	<p>After 90 days of treatment: Improved understanding of addressed speech, eye contact, reduced hyperactivity and repetitive behavior.</p> <p>Side effects: None</p>
23. Male, 9 years old	<p>Pregnancy: Respiratory infection;</p> <p>Parturition: Stimulated, the child was born with hypoxia;</p> <p>At first year of life: The child was restless, hyperactive, could not sleep.</p>	<p>Medications: Cortexin, Encephabol, Cerebrolysin, Ceraxon, Glycin, Tenoten, Pantogam, supplements;</p> <p>Corrective therapy: Psychological therapy, speech therapy;</p> <p>Alternative therapy: Transcranial micropolarization</p>	Moderate language impairment, understands only very simple speech, misunderstanding of how to communicate with other children, mild restricted and repetitive behavior, anxiety.	<p>Infections: IgG to rubella virus, CMV, HSV, EBV IgM to HSV;</p> <p>Red and white blood cells: Erythrocytosis, lymphocytosis, increased MCV, decreased MCHC;</p> <p>Immunity: Reduced T-helper/T-suppressor ratio.</p>	<p>After 150 days of treatment:</p> <p>Infections: No changes but IgG to CMV increased;</p> <p>Red and white blood cells: Thrombocytosis, eosinophilia, lymphocytosis, increased MCV;</p> <p>Immunity: Reduced T-helpers/T-suppressors ratio.</p>	<p>After 150 days of treatment: increased vocabulary, started to speak grammatically correctly, started to understand his condition (that he has autism), became more attentive, learning and cognitive abilities improved, does his homework by himself, more self-dependent, used toilet by himself, empathy appeared, helps mother, sleep improved.</p> <p>Side effects: Enuresis at the beginning of the treatment</p>

Case #	Pregnancy, parturition and a child in the first months of life	Previously used medications and therapies	ASD symptoms according to DSM-5 and related symptoms	Results of blood tests before treatment	Results of blood test after treatment	Changes in behavior after treatment and side effects
24. Male, 4 years old	Parents did not provide the information on pregnancy, parturition and early life of the child.	Medications: Pantogam, Cogitum, Cortexin, supplements  Alternative therapy: Reflexotherapy	Severe language impairment, absence of speech understands only very simple speech, misunderstanding of how to communicate with other children, severe restricted and repetitive behavior, self-aggression, hyperactivity.	Infections: IgG to rubella virus, CMV, HSV;  Red and white blood cells: Erythrocytosis, lymphocytosis, increased RDW and hematocrit.  Immunity: Decreased B-lymphocytes, T-helper/T-suppressor ratio.	After 90 days of treatment:  Infections: No changes; Red and white blood cells: Erythrocytosis, monocytosis, lymphocytosis, increased hematocrit and hemoglobin, decreased sed rate;  Immunity: Reduced T-helpers/T-suppressors ratio.	After 90 days of treatment: Increased vocabulary, clearer speech, improved understanding, became more self-dependents, started using toilet by himself.  Side effects: None
25. Male, 4 years old	Pregnancy: No complications  Parturition: Stimulated, the child was born with hypoxia;  At first year of life: The child was very calm, could sit by himself for hours, did not need attention.	Medications: Gammalon, Ceraxon, Triampur  Corrective therapy: Psychological therapy, speech therapy;	Severe language impairment, absence of speech, understands only very simple speech, misunderstanding of how to communicate with other children, severe restricted and repetitive behavior, hyperactivity, reduced sensitivity,	Infections: IgG to rubella virus, CMV, EBV, H. pylori;  Red and white blood cells: Neutropenia;  Immunity: Increased T-suppressor, NK cell, B-lymphocytes counts and T-helper/T-suppressor ratio	After 90 days of treatment:  Infections: No changes; Red and white blood cells: Neutropenia;  Immunity: Decreased T-helper, B-lymphocytes counts and T-helper/T-suppressor ratio, increased T-suppressor count.	After 90 days of treatment: increased vocabulary, worsened behavior, hyperactivity, attempts to defend himself.  Side effects: Enuresis and worsening of behavior at the beginning of the treatment.
26. Male, 7 years old	Pregnancy: Respiratory infections in the 1st and 3 <sup>rd</sup> trimesters;  Parturition: The child was born with hypoxia; At first year of life: The child was very calm, could sit by himself for hours, did not need attention.	Medications: Cortexin, Cerebrolysin, Pantocalcin, Gammalon, Cereberum, Maxidol;  Corrective therapy: ABA-therapy Psychological therapy, speech therapy;	Severe language impairment, rarely understands addressed speech, misunderstanding of how to communicate with other children, prefers to stay alone, severe restricted and repetitive behavior, anxiety, hyperactivity, self-aggression.	Infections: IgG to rubella virus, CMV, EBV, Mycoplasma, H.pylori;  Red and white blood cells: Erythrocytosis, monocytosis, eosinophilia, increased RDW, sed rate, decreased MCH, MCV;  Immunity: Reduced T-helper/T-suppressor ratio.	After 90 days of treatment:  Infections: IgG to H.pylori and to Mycoplasma – within reference ranges, IgG to rubella virus significantly reduced, IgG to CMV and EBV did not change.  Red and white blood cells: Erythrocytosis, eosinophilia, neutropenia, lymphocytosis, increased RDW, reduced MCV, MCH;  Immunity: All immune cells within reference ranges.	After 90 days of treatment: Started to speak, learned several words, reduced self-aggression, anxiety, empathy appeared, memorization improved, follows instructions.  Side effects: None
27. Male, 9 years old	Pregnancy: No complications;  Parturition: Long anhydramniotic period, cesarean section, the child was born with hypoxia;  At first year of life: The child was very calm, could sit by himself for hours, did not need attention.	Medications: Cortexin; Corrective therapy: exercise therapy;  Alternative therapy: Transcranial micropolarization.	Severe language impairment, absence of speech, does not know how to communicate with others, prefers to stay alone, severe repetitive behavior, hypersensitivity,	Infections: IgG to rubella virus, CMV, VZV, H. pylori;  Red and white blood cells: Thrombocytosis, lymphocytosis, neutropenia, decreased hematocrit;  Immunity: Reduced T-helper/T-suppressor ratio.	After 30 days of treatment:  Infections: IgG to H. pylori within reference ranges, other infections did not change;  Red and white blood cells: Neutropenia, lymphocytosis, increased sed rate;  Immunity: Was not tested.	After 30 days of treatment: The child became more interested, more cheerful, calmer, hyperactivity reduced.  Side effects: None

Case #	Pregnancy, parturition and a child in the first months of life	Previously used medications and therapies	ASD symptoms according to DSM-5 and related symptoms	Results of blood tests before treatment	Results of blood test after treatment	Changes in behavior after treatment and side effects
28. Female, 5 years old	Pregnancy: No complications; Parturition: Cesarean section, the child was born with hypoxia; At first year of life: The child was very calm, could sit by himself for hours, did not need attention.	Medications: Cogitum, Pantogam;  Corrective therapy: ABA therapy, Tomatis therapy, psychological therapy;	Moderate language impairment, illogical statements in speech, echolalia, focusing on drawing, does not differentiate between family members and strangers, mild repetitive behavior, hyposensitivity, hyperactivity;	Infections: IgG to EBV, rubella virus, CMV, HSV;  Red and white blood cells: Eosinophilia;  Immunity: Was not tested.	After 30 days of treatment:  Infections: No changes; Red and white blood cells: Neutropenia, lymphocytosis, increased sed rate;  Immunity: Reduced T-helper/T-suppressor ratio.	After 30 days of treatment: Became more attentive, increased understanding, started to express her thoughts, improved behavior, stopped hugging strangers. Medical Commission noticed positive changes.  Side effects: None
29. Male, 9 years old	Pregnancy: No complications;  Parturition: Long anhydramnios period, The child was born with hypoxia;  At first year of life: The child was very calm, could sit by himself for hours, did not need attention, from the birth – hearing hypersensitivity, frequent respiratory infections.	Medications: Cogitum, Cereberum, Cortexin, Triampur;  Corrective therapy: Speech therapy, defectologist, ;  Alternative therapy: Acupuncture, massage,	Moderate language impairment, can say only simple, short phrases, grammatically incorrect speech, severe restricted and repetitive behavior, impaired eye contact, does not participate in dialogues, frequent hysterias, hyposensitivity, sleep problems.	Infections: IgG to EBV, rubella virus, CMV, H. pylori;  Red and white blood cells: Thrombocytosis, increased sed rate;  Immunity: Decreased B-lymphocytes and T-lymphocytes.	After 60 days of treatment:  Infections: No changes; Red and white blood cells: No changes;  Immunity: No changes.	After 60 days of treatment: Hysterias occur much rarer, hyperactivity and anxiety reduced, increased vocabulary, repetitive behavior stopped, improved eye contact.  Side effects: None
30. Female, 6 years old	Pregnancy: Respiratory infection  Parturition: The child was born with hypoxia and CNS damage;  At first year of life: The child was very calm, could sit by himself for hours, did not need attention, from birth has had motor impairment, encephalopathy at age of 2.	Medications: Pantogam, Cortexin, Glicyn, Tenoten, Mexidol, Gammalon, supplements;  Corrective therapy: Speech therapy, defectologist, psychological therapy;	Moderate language impairment, reduced vocabulary, does not know how to communicate with peers, severe restricted and repetitive behavior, anxiety, gastrointestinal tract and immune system diseases,	Infections: IgG to EBV, rubella virus, CMV, VZV;  Red and white blood cells: Neutrophilia, monocytosis, increased RDW, decreased MCV, MCH;  Immunity: Decreased B-lymphocytes, T-lymphocytes, T-helper, T suppressor cells counts.	After 60 days of treatment:  Infections: IgG to all infections decreased, IgG to VZV reduced by 2 times;  Red and white blood cells: No changes, additionally thrombocytosis, increased sed rate;  Immunity: All immune cells within reference ranges apart from decreased T-lymphocytes.	After 60 days of treatment: Catching up with other children in the general preschool center, began to play with other children, teachers notice progress in learning, peeping at others' notes or asks for help, if doesn't know something, began to do her homework independently, general improvement in communication skills, increased vocabulary.  Side effects: None

Supplementary Table 1: The description of the individual cases