

Immunomodulatory therapy of the Multiple sclerosis – effects on the clinical indices and health related quality of life

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Abstract. The Results of multiple sclerosis therapy with immunomodulating preparations — Copaxone during three years and interferon beta-1b during two years are summed up. The frequency reduction of disease aggravations, the index improvement of living standard and psychoemotional state of the patients have been achieved.

Key words: multiplesclerosis (MS), Immunomodulatory therapy, quality of life.

Multiple sclerosis (MS) is an inveterate demyelinating disease of the nervous system with the evolving course and of unknown cause. The treatment of such disease has always been difficult task and was mainly confined to the management of recrudescence and to a symptomatic Therapy. Last tenth anniversaries all over the world there has been intermitted and accumulated a great experience of the MS` Immunomodulatory preparations treatment, which have an effect on its pathogenesis, prevent recrudescence and disease advance, and, therefore, change its course. Positive effect pertaining to the recrudescence occurrence was noted in all the researches – advance slowing by 30%, in average, coupled with disability grade decrease as early as at first years of therapy. [1, 2, 3, 6, 7].

Materials and methods. Following Immunomodulatory preparations treatment process of MS was analyzed: Glatiramer acetate (copaxone) – among 22 of patients during 3 years; interferon beta-1b – among 18 of patients during 2 years. Clinical acceptability, collateral damage occurrence, neurological status results, including Expanded Disability Status Score (EDSS), occurrence and frequency of the recrudescence were taking into account. Estimation of the health related quality of life (QL) with the usage of general enquirer of MOS SF-36 was also conducted. This method allows estimate physical, psychic, emotional and social functioning of the patient, which is based on his subjective perception, particularly over time in the course of the treatment. [4,5, 7, 8,]. The enquirer consists of 8 scores, the first four of them characterize physical health, next four – psychological health. The enquirer was filled out by the patients once six months. Before preparations assigning patients were surveyed at the conditions of neurological hospital, MRI was conducted, and there was discussion of the therapy`s necessity and importance, injection procedure and of potential side effects.

Results and discussions. 22 of patients received Glatiramer acetate; there were 6 of them who stopped the therapy during the first year. Reasons: 3 patients refused, 1 patient got anaphylactic shock, and there were two patients who migrated into the repeated advance. 16 of patients continued the treatment with copaxone for 3 years; there were 14 among them with the remittent course and two of them with the recurrent progressing recrudescence. Patients` average age was $35,56 \pm 2,46$ years old (from 19 to 48 years old), time duration of the disease - $9,13 \pm 1,8$ years (from 4 to 32), EDSS index – $3,25 \pm 2,7$ balls (1,5 to 5,0), average number of recrudescence for two preceded by therapy years - 2,0.

Collateral damage: at the beginning of the treatment 6 patients noticed temporary vegetative disturbances: intercostal neuralgias, eruption, feeling of fervescence, labored breathing. Two women had vegetative crisis by type of panic attack, which passed away after continuing the treatment. 2-3 years later lipoatrophy occurrence at the sites of injections began to appear mainly among women. 3 years after beginning of the therapy there was a slightly increasing of EDSS average index EDSS - from $3,25 \pm 0,27$ to $3,56 \pm 0,37$ balls. There were no any changes in

EDSS disability severity among 8 patients, and there were some improvements within 0,5- 1 balls. And there was presented moderate rising of neurologic impairment among others. One female patient had been heightened with her disability status, one patient changed a job. The amount of recrudescence during treatment - 8 (0,5 in average). 6 patients didn't have any recrudescence. Two of patients were merged in the recurrent progression.

While investigating QL indexes as early as a year after starting copaxone treatment there was noticed definite improvement of the indexes under all the scores. In three years we received definite, statistically-valid differences between the consolidated figures of general, physical and psychological health of patients before and after treatment. Therefore, QL general index before treatment was 421,86, and it was 556,63 after the treatment ($p < 0,001$), physical component before treatment was on the level of 208,18, and three years later there was an increase up to 268,81 ($p < 0,001$), psychological component before treatment was on the level of 213,67, and after treatment it achieved the level of 287,82 ($p < 0,03$). In such a manner, patients started to estimate their physical and psychological health distinctly better.

18 patients started interferon beta-1b therapy, one woman among them abandoned the treatment in the first months because of collateral damage, the treatment was canceled among one woman because of the marked disability. 16 patients continued the treatment during 2 years, 10 among them had a remitted course, 6 patients had recurrent progressing recrudescence. Patients average age - $36,94 \pm 2,92$ years old (from 22 to 48), time duration of the disease - $11,69 \pm 2,08$ years (from 3 to 29), EDSS index - $4,09 \pm 0,35$ balls (from 2 to 7), average number of recrudescence for two preceded by therapy years - 1,8.

Collateral damage: flu-like syndrome at the beginning of therapy up to 1-2 months, two patients noticed weight reduction, and there were also two patients who noticed sings of collapse. Changes at the sites of injections - rubefactions, indurations, especially at the beginning of the therapy, were noticed among 14 patients. Spasticity increasing was noticed in patients, who have already had this symptom prior to initiating therapy, this connection may be considered to be presumable though.

The amount of recrudescence during treatment - 12 (0,75 in average), in most of the cases it didn't required gluco-corticosteroid treatment. 3 patients had yearly severe recrudescence with the migration into the repeated advance that gives the reason to say about inefficiency of the treatment. EDSS disability degree after two years - $4,81 \pm 0,34$ balls. During two years of treatment EDSS indexes didn't change in 6 patients.

While estimating the indexes of QL in this group there was noticed a tendency to improvement of the health psychological component. Indexes that characterize physical health moderately decreased what can be connected with the presence of patients at the stage of repeated progression in this group. Consolidated figures of mental health increased yet, what is not authentic though, from 218,8 to 222,1, consolidated figures of physical health slightly decreased from 206,4 to 193,9, general health changes of decreasing direction were also noticed from 421,1 to 416,0 ($p > 0,05$).

Less marked changes in patients received interferon beta-1b in comparison with copaxone therapy, presumably, are connected with initially more severe disease course, and with marked disability prior to initiating therapy. Nevertheless, the improvement of psychological background during immunomodulatory therapy, and also improvement of the physical activity of the patients is a highly positive factor.

Conclusions.

Now it can be seen that among the patients received immunomodulatory therapy the recrudescence occurrence decreased by 32,8%, 14 patients (43,75%) didn't have any recrudescence during the treatment. Inefficiency of the treatment was observed among 5 (15,6%) patients that was manifested as frequent recrudescence and migration into the repeated advance. In spite of the fact that we didn't achieve complete extinction of the disease progression among most of the patients, however, immunomodulatory therapy acted to raise the indexes of physical and mental components

of quality of life and to improve social and emotional function not only in the bosom of family but also outside the family.

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Intoxication and oxygen status parameters correlation of the colorectal cancer patients

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Even early staged malignant tumors cause common disorders with endogenous intoxication syndrome (EIS) and different staged respiratory disorders. It's quite known that EIS develops hemostasis and hemodynamic disorders with decreasing of the oxygen transportation to the tissues, cell energy metabolism damage, and as a consequence, to the tissue hypoxia and metabolic acidosis. Undoubtedly, all of these pathological processes make prognosis of these patients treatment to be worse. That's why it's considerable to reveal and make stratification of the EIS and respiratory disorders to make an adequate treatment of these patients in proper time. Nowadays, integralhematologicalindexesareusefulforhistask.

Purpose of the research: to reveal a correlation between hematological indexes of the intoxication and respiratory disorders by colorectal cancer patients in preoperative period.

Materials and methods: Seventy-three colorectal T3-T4 cancer patients (37 (50,7%) male and 36 (49,3%) female) were studied in 2010 – 2013 period years at Amur regional clinical hospital. An average age was 61 years (95% from 59 till 63 years). Every patient passed through investigation of the blood with hematological indexes calculation before the surgery: leukocyte intoxication index (LII, Kalf-Kalif's index), modified leukocyte intoxication index (LIIm, Ostrovskiy's index), hematological intoxication index (HII, Vasilyev's index). Moreover, we analyzed arterial and venous blood gas content with calculation of the common oxygen metabolism indexes in all cases. Hemodynamic indexes calculated by Starr's formula (1954) in modification by Zabolotskikh (2002). Statistical analysis was performed with the help of the MS Office Excel 2007 and SPSS Statistics 17.0.