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Correlation between the quality of life patients with the diagnosis of schizophrenia in the extension stage and the type of used pharmacotherapy

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Abstract
The purpose of this study was to identify the relationship between the quality of life of patients with a diagnosis of paranoid schizophrenia and the type of pharmacotherapy. Objectives of the study: 1. Measurement of the quality of life of patients; 2. Determination of the correlation coefficient between the age of patients and the quality of life indicator. The study was conducted by questioning the patients on the basis of the State Budgetary Healthcare Institution Psychiatric Hospital No 5 of Krasnodar region. The study involved 65 patients. The questioning was carried out using the questionnaire "Assessment of the quality of life of patients with schizophrenia during maintenance therapy", developed by the St. Petersburg Psychoneurological Institute named after Bekhterev of the Ministry of Health and Social Development of the Russian Federation. Significant positive correlations were finally found between the quality of life of patients and the antipsychotics of the 2nd generation usage. Also, we saw a negative correlation between the age of patients and the value of the quality of life index.

Keywords: schizophrenia, quetiapine, chlorpromazine, antipsychotic, haloperidol, paliperidone

1. Introduction

Schizophrenia is a mental illness with various psychopathological manifestations and mandatory negative changes in the emotional-volitional sphere right up to social alienation. This disease is characterized by a slow course, psychopathic and neurotic manifestations. To date, the division of neuroleptics into "typical" [2] and "atypical" [11] is quite common. This classification is relevant in the choice of therapy, because it is based on existing differences in the pharmacological effect of these drugs. According to clinical studies, "atypical" antipsychotics can reduce negative symptoms and to a lesser extent cause neurological disorders [1, 7, 10, 17].

Nowadays the use of such neuroleptics as aminazine and haloperidol is still quite common in the clinic. Aminazine is one of the first synthesized neuroleptics (1950). It is characterized by an antipsychotic effect and influence on the emotional sphere of the patient. Its use makes it possible to stop various kinds of psychomotor agitation, to weaken or completely stop nonsense and hallucinations, to reduce or remove fear, anxiety, and tension in patients with psychoses and neuroses. The list of aminazine side effects is quite wide and includes: 1. Apathy, lethargy, drowsiness, weakness, dizziness, convulsive conditions; 2. Side effects associated with anticholinergic activity (dry mouth, constipation, difficulty urinating, diplopia); 3. From the side of the cardiovascular system: tachycardia, arrhythmia, electrocardiogram change. You can also note the depression of the respiratory center, menstrual irregularities, galactorrhea, gynecomastia, impotence, weight gain [5, 18, 19]. Undoubtedly, the development of even a certain number of side effects in the use of this drug inevitably worsens the patient's quality of life. In the opinion of Samara MT *et al* (2014), such a representative of antipschotics 1 of the nomination as Aminazine loses significantly in a number of parameters to second-generation antipsychotics [15]. The second most popular antipsychotic of the 1st generation is haloperidol. Haloperidol, developed in 1957, is a derivative of Butyrofenon. The mechanism of its antipsychotic action is based on blockade of dopamine receptors in the mesocortical path and limbic system. Extrapyramidal disorders of patients receiving haloperidol are due to blockade of dopaminergic activity in the nigrostrial pathway [4].

Olanzapine is an atypical neuroleptic of the thienobenzodiazepine class, who's antipsychotic and neuroleptic effects are realized by blocking dopaminergic and serotonergic receptors. This drug is indicated in the treatment of schizophrenia, including in the course of anti-relapse therapy [14].

Paliperidone also belongs to the group of atypical antipsychotics and is similar in structure to that of Risperidone, which is its metabolite and is distinguished from it by the absence of one OH group. The mechanism of its action on the central antagonism of dopamine and serotonin receptors and to a certain extent of adrenergic receptors [6].

Quetiapine is also characterized by antagonistic action against neurotransmitter receptors in the brain. It is characterized by an affinity for serotonin, dopamine, serotonin and adrenergic receptors. Quetiapine significantly inhibits serotonin receptors in the brain much stronger than dopamine, and also has a high affinity for histaminergic adrenergic receptors and a lower affinity for α2-adrenergic receptors [8].

Risperidone has a high affinity for serotonin and dopamine receptors. It is also capable of binding to histamine receptors and adrenoreceptors. It has no affinity for cholinergic receptors. Risperidone is a potent antagonist of dopamine receptors, which is the main mechanism for reducing productive symptoms in patients with schizophrenia [3, 12, 16].

The quality of life index is subjective characteristic of the patient's health status and quality of life and undoubtedly has

a direct impact on the patient's treatment process and also reflects the various processes taking place in the patient's body, for example, the development of adverse side reactions caused by the application of one or another preparation [13]. Speaking about patients, who receives antipsychotic therapy, it is important to note the importance of side effects, neuroleptics using and the level of quality of life, as integral characteristics. So, in the study of S, and Kumar S. (2017), data are presented that the use of such a typical neuroleptic as haloperidol is correlated with a decrease in the quality of life of patients due to adverse effects on the reproductive, nervous and digestive system. According to the study of the influence of Edwin H.M. Lee *et al*. (2015) of neuroleptics on the quality of life of patients, depending on the strength of the antipsychotic drugs' affinity for certain receptors (dopamine, serotin, histamine, etc.) [9].

The study of the quality of life of the patients with diseases of the schizophrenic spectrum against the background of the use of maintenance pharmacotherapy allows an objective assessment of the effectiveness of treatment. Extremely low indicators of the quality of life of the patient can serve as a "starting point" in the process of changing the used drug.

2. Materials & Methods

The study was conducted by questioning the patients on the basis of the State Budgetary Healthcare Institution Psychiatric Hospital No 5 of Krasnodar region. The study involved 65 patients. The questionnaire was carried out using the questionnaire "Assessment of the quality of life of patients with schizophrenia during maintenance therapy", developed by the St. Petersburg Psychoneurological Institute named after Bekhterev of the Ministry of Health and Social Development of the Russian Federation. This questionnaire was developed on the basis of such questionnaires as WHO QL-100 and QL-SM and allows to assess the quality of life during maintenance drug therapy. The questionnaire includes two modules: 1. WHO QL-100 is a tool that allows assessing the quality of life of a wide range of respondents, 2.QL-SM is a specific module that is designed to assess the quality of life of patients suffering from the endogenous psychosis. The diagnosis of schizophrenia was made according to the criteria for ICD-10. We selected 65 patients with a diagnosis of paranoid schizophrenia for the study. Patients were divided into two groups: 1 group - patients receiving typical antipsychotics (Aminazine, Haloperidol) n = 22 and 2 group - patients whose medication was represented by neuroleptics of the 2nd generation (Quetiapine – «Seroquel», «Quentiax», «Nantaride», Olanzapine – «Ziprex», Risperidone – «Rispolept», «Risset», «Ripaksol», «Ridonal, Torendo», Paliperidone – «Invego», «Xseplion») n = 43 (p≥80%). The age of the patients varied from 21.9 to 75 years (median is 48 years). Statistical processing of data was carried out using the application of the program Statistika 10.

3. Results & discussion

In the group of patients receiving atypical antipsychotics (44 subjects), the following quality of life indicators were established: a high quality of life was observed in 11.36% of cases (5), an average level of quality of life was 79.54% (35), a poor level of 9, 09% (4). The standard of living in the group of patients receiving first-generation antipsychotic drugs (22 subjects) was significantly different from that one in the first group: the average level of quality of life was 72.73% (16), poor quality of life 27.27% (6); A high level of quality of life in this group of patients could not be identified. During the processing of data, we found a statistically significant difference in the mean values of the quality of life in the two study groups (group 1: $\mu = 175.7$, 2 group: $\mu = 150.28$, $p = 0.000317$). In addition, the age of the patients was negatively correlated with the overall index of their quality of life ($r = -0.153$)

4. Conclusions

Based on the results of this study, we can note the fact that in the "typical" antipsychotic pharmacotherapy group, the quality of life indicator is significantly lower than in patients from the second generation of therapy group. Thus, we can draw conclusions about the priority of second-generation drugs in the treatment of schizophrenia. A significantly lower incidence of side effects with these drugs will ultimately be reflected in the increase in the quality of life of patients. Also, it can be argued that a significant role in the treatment of patients diagnosed with paranoid schizophrenia is the age of patients. It can be assumed that this fact is mediated by the aging progresses, because there is a natural decrease in adaptive capacity.

5. References

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