Original Article

DEPRESSIVE DISORDERS IN MALES WITH METABOLIC SYNDROME

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Summary

The aim of the study was to determine the incidence of depression in 75 male patients (mean age 44±6 yrs) with metabolic syndrome, and the frequency of false answers in tests, used to diagnose depression. Evaluation was carried out according to standards set by International Diabetes Federation (IDF, 2005), using CES-D (Center for Epidemiologic Studies Depression Scale), Hospital Anxiety and Depression Scale (HADS) and Lusher test. The results were calculated with Statistica 6.0, MedCalc Version 7.4.2.0. и Microsoft Excel. Summing up the results according to CES-D and HADS, depression was found in 32% of the cases, averaging 14 according to CES-D (min 5 – max 28), and 5.3 – according to HADS (min 1 – max 13). The Lusher test elicited depression in 60% of the cases, which exceeded the CES-D and HADS results ($p<0.05$). The frequency of false results was 28%. Depression in males with metabolic syndrome was be diagnosed in every other patient among a hundred. The negative influence of depression on treatment for metabolic syndrome makes it necessary to achieve good motivation and promote healthy lifestyles.
Key words: depression, Lusher test, metabolic syndrome

Introduction

The prevalence of metabolic syndrome in the world population is very high. According to the meta-analysis conducted by the American scientist S. Grundy, metabolic syndrome affects 15-25% of the adult population of the planet [1]. According to Russian data from 2004, the frequency of metabolic syndrome in 40-55-year-old males was 44.4%, while in females of the same age group it was 20.8%. According to WHO experts, the metabolic syndrome is a new pandemic of the twenty-first century, and the number of patients with metabolic syndrome is expected to increase by 50% over the next 20 years [2, 3, 4].

Metabolic syndrome is characterized by reduction of physical activity. It interferes with needs and plans, and causes stress. Psychological changes are seen in patients with the syndrome [5]. Metabolic syndrome is related to the psychoemotional state and causes depression.

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Depressive disorders are a big problem in modern society. Every year, 200 million people are diagnosed with such disorders [6]. In the general population, depression incidence ranges from 5% to 17%. However, in special treatment facilities the incidence is as low as 1% [7]. This allows us to conclude that more than half of such patients consult a therapist, who makes an early diagnosis of depression. In 40% of the cases, depressions are not diagnosed on time [6]. A combination of depression and a somatic disease is associated with unfavourable factors, impeding both diagnosis and treatment. Furthermore, the combination has a negative impact on the mental state of the patients. [8, 9] Depression makes somatic disease worse: its clinical picture increases the frequency of consulting a doctor and undertaking unnecessary investigations. On the other hand, it can provoke somatic disease [10, 11], and increase the likelihood of death [10].

Nowadays depression is seen as one triggering of metabolic disease [8, 12]. Affective disorders give rise to risk factors. These factors, according to the Russian scientific society of cardiologists, bring about the development of metabolic disorders. The main risk factors are overeating and decrease of exercise. During depression physical activity is decreased, appetite increases, and hyperactivity of sympathicotonic syndrome is a factor which increases blood pressure [11]. The fact that depression and the metabolic syndrome are connected was proved by the results of Whitehall II Study of 2009. The results were reported by Tasnime N. Akbaralya et al. (University College London, in London, United Kingdom) [9].

The aim of the study was to determine the incidence of depression in male patients with metabolic syndrome, and the frequency of false answers in tests, used to diagnose depression.

Patients and Methods

The study was carried out on 75 males (mean age 44±6 years) with metabolic syndrome, verified according to International Diabetes Federation (IDF, 2005) criteria. Anthropological measurements were carried out, and changes in blood pressure were registered using the Korotkov method.

The psychoemotional state of the patients was evaluated with the Center for Epidemiologic Studies Depression Scale (CES-D), Hospital Anxiety and Depression Scale (HADS), and Lusher test. Statistical analysis of the results was carried out using STATISTICA 6.0, MedCalc Version 7.4.2.0. и Microsoft Excel programs. Checking was performed applying Kolmogorov-Smirnov criteria.

The study was documented and approved by the ethics committee at the State Medical University, Rostov-on-Don. Informed consent was signed by all patients participating in the study.

Results

The CES-D scale analysis of the incidence of depression showed it was diagnosed in 24% of the patients. Of these, 20% had a mild form of depression. Moderate depression was found in 4% of them, and none had severe depression. Research of frequent spreading by means of HADS allowed finding depression in 16% of the cases. Subclinical depression was found in 12% of these cases, and 4% of had clinical signs of depression. Anxiety was diagnosed in 40% of the patients; of which 24% had subclinical forms of anxiety, and 16% were diagnosed with clinical form of the condition. Depression combined with anxiety was found in 16% of the patients. Testing with CES-D showed that 24% of the patients had depression, while testing with HADS revealed depression in 16%.

Summing up the results from application of CES-D and HADS showed that 32% of the patients had depression, averaging 14 (min 5 – max 28) according to CES-D, and 5.3 (min 1 – max 13) according to HADS.

Discussion

Of 75 people selected for the study, a group of 51 males were investigated. Scales used for self valuation did not reveal psychoemotional disorders. However, during an interview with a physician, symptoms of depression were registered. This could be attributed to the fact that patients had filled in the questionnaires on their own. When patients fill in questionnaires on their own, this saves time, the presence of a psychiatrist is not required and no special education is needed to interpret the results. However, the risk of getting false results in this research is quite high. Patients are likely to conceal their real psychoemotional state, and this is what happened in our study.

Analyzing the results obtained we concluded that more objective methods to diagnose depression should be used, such as the Hamilton Depression Scale and the Montgomery-Åsberg Depression Rating Scale. One disadvantage of these scales is that a specially trained psychiatrist can perform them, which is a limitation. To achieve objective results, we used the 8-colours test of Lusher. The Lusher test does not provoke protective reactions since it is not restricted by culture- or ethnic-based associations. It also helps reveal both the subjective attitude of patients and their involuntary reactions to questions, which renders the test objective.

During the study of the initial group of patients, depressions were found in 60% of the cases with the 8-color test. When compared to the results obtained with CES-D scale, there was 100% matching with the results with the 8-color test. The same matching rate was found for the HADS scale.

The frequency of diagnosing depressions by means of Lusher's test exceeded the frequency of that determined with HADS by 44% ($p<0.01$), and by 36% the frequency, determined with CES-D by 36% ($p<0.05$). Taking into consideration the matching of Lusher test as 100%, we can conclude that the frequency of filling in the questionnaires by the patients was 28% in our research.

Conclusions

Our study showed that depression is highly spread among middle-aged men with metabolic syndrome. According to the data obtained, every 3rd person with a metabolic syndrome suffers from depression. Lusher`s test allowed us to confirm our prediction of the fact that the number of people with depression has increased. The use of Lusher`s test shows that every 2nd patient with metabolic disorders has depression. Change in lifestyle is at the basis of treatment of patient with metabolic syndrome. This implies diet, increase of physical activity, quitting smoking and alcohol abuse [13]. Depression leads to deterioration of life needs and plans. A person loses motivation for changes in lifestyle. This makes it clear that the physician has to motivate a patient do it. Knowledge and understanding of psychoemotional state of the patient with metabolic syndrome can help the doctor diagnose the attitude of a patient towards changes and help him form a healthy lifestyle.

Obviously, traditional treatment of metabolic syndrome cannot be undertaken without taking into consideration the psychoemotional state of a patient. Unsatisfactory treatment of such patients can only make the problem worse. To make the treatment successful, optimizing the ways of diagnosing depression is necessary:

• To define clinical features of depression by means of talking to patients

• To use a questionnaire for self valuation (for example CES-D)

• To refer patients to a specialist and explain its necessity to a patient, if mismatching in questionnaire and psychoemotional state occurs.

Not all doctors are aware that the combination of metabolic syndrome and depression makes the treatment of psychoemotional state more significant than therapy of metabolic disorders [10]. We should understand the fact that metabolic syndrome in combination with depression is a serious problem.

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