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Chronic Fatigue Syndrome

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ABSTRACT

Background: Chronic fatigue syndrome is a collection of symptoms characterized by complaints of fatigue that lasts for at least six months or more. It can be accompanied by symptoms of low-grade fever, myalgia, arthralgia, cephalgia, and a sore throat that is sometimes accompanied by enlarged glands. The main psychological symptoms of chronic fatigue syndrome are depression and sleep disturbances. **Case Presentation:** A 26-year-old male patient was treated with the main complaint of feeling tired 6 months before he was admitted to the hospital. The patient claimed that he was unable to do activities independently because he experienced extreme tiredness. He also complained of a headache that was felt when under stress and was not relieved by rest, along with a stabbing-like pain that moved around throughout his body, which also does not decrease with changes in position or rest. He also had heartburn felt since 4 months ago when eating spicy foods, eating late, and especially when experiencing mental stress, which often was accompanied by nausea and vomiting. The results of his physical, laboratory, and supporting examinations were all within normal limits. The patient was then diagnosed with chronic fatigue syndrome and functional dyspepsia. **Conclusion:** Approaches to medical treatment of chronic fatigue syndrome can be made based on the general treatment of physical and psychological symptoms experienced. In these circumstances, antidepressant drug therapy and psychotherapy, such as cognitive-behavioral therapy, are needed. In addition, rehabilitation therapy may also be necessary because several studies show that gradual physical exercise yields significant improvement in chronic fatigue syndrome patients.

1. Introduction

Chronic fatigue syndrome is a collection of symptoms characterized by complaints of fatigue that lasts continuously or recurs within six months or more, with the main psychological symptoms being depression and sleep disturbances. It may also be accompanied by symptoms of low-grade fever, myalgia, arthralgia, cephalgia, and a sore throat (pharyngitis) which is sometimes accompanied by enlarged glands.¹

Chronic fatigue syndrome is more common in women than men, especially in the productive age of 25-45 years. Case reports are generally sporadic, especially in developed industrial areas. Extraordinary

events were reported in 1934 in Los Angeles, in 1955 at the Royal Free Hospital in London, and in Florida in 1956. The exact prevalence is not known with certainty due to problems in establishing the diagnosis and interpretation of subjective fatigue. Research conducted by Buchwald et al. with diagnostic criteria based on the CDC estimates the prevalence of chronic fatigue syndrome to be around 75-267 cases/ 100,000 population, or around 0.1-0.4%. Meanwhile, other studies conducted have a lower prevalence because the enforcement of criteria based on the CDC is too strict. Meanwhile, in Indonesia, there are currently no case studies reporting chronic fatigue syndrome.²

The etiology and pathogenesis of chronic fatigue syndrome are still not clearly understood. Several hypotheses mention the linkage after viral infection, immunological factors, hormonal factors, and psychosocial factors. Chronic fatigue syndrome often occurs in patients with viral infections such as Epstein-Barr virus and cytomegalovirus. In addition, in patients with chronic fatigue syndrome, antigens of various kinds of viruses are often found, such as Herpes, Rubella, and Measles, along with retro and enterovirus groups.³

Immunological factors are also thought to play a role in the incidence of chronic fatigue syndrome because of the findings of increased antibody titers, decreased immunoglobulin, and decreased natural killer activity in some cases. Several other case report studies found a decrease in corticotropin-releasing hormone levels and a lower mean cortisol level in patients with chronic fatigue syndrome compared to controls, which can cause mood and energy disturbances.⁴ The main symptom is a feeling of tiredness that is felt continuously or repeatedly, which can interfere with daily activities. Fatigue will increase when doing activities or when experiencing emotional stress and does not disappear when resting. In addition, patients also complain of not being able to complete their work properly, which can usually be done easily. Most patients are still able to do work and socialize, but a small number of patients are unable to carry out their daily activities.⁵

Other symptoms that can occur are myalgia, arthralgia, cephalgia, low-grade fever, sore throat or pharyngitis symptoms, pain around the axillary or cervical gland area in addition to chest pain, palpitations, abdominal pain, allergies, and sometimes even resembling fibromyalgia. Psychological symptoms that are often encountered are symptoms of depression, insomnia, and difficulty concentrating.¹ The psychosomatic approach is the best step in establishing the diagnosis of chronic fatigue syndrome. One of the criteria for establishing a diagnosis of chronic fatigue syndrome is the use of the CDC 1988 criteria.⁶

The management approach for chronic fatigue syndrome can be based on general treatments, which include symptoms of physical and psychological complaints, so in these circumstances, it is necessary to give antidepressant drug therapy and psychotherapy, such as cognitive-behavioral therapy. In addition, physical rehabilitation therapy is also needed because several studies show that gradual physical exercise shows significant improvement. In contrast, excessive rest will increase feelings of fatigue and increase the risk of depression. Giving multivitamins to patients can also be beneficial.⁷

2. Case Presentation

A 26-year-old male patient was treated with the main complaint of feeling tired 6 months before he was admitted to the hospital. The patient claimed that he was unable to do activities independently because he experienced extreme tiredness that made him bedridden for the past 6 months. He also reported additional symptoms such as a headache as if his head is wrapped in a tight band since 8 months ago, felt especially when under stress, and is not relieved by rest; a stabbing-like pain moving around throughout his whole body since 6 months ago and increases if he has a mental burden; as well as a stabbing-like chest pain accompanied by palpitations that were felt since 6 months before being admitted to the hospital, which does not radiate to the back and usually recurs when he feels anxious or experiences mental stress.

The patient also experienced a decrease in appetite 6 months before admission to the hospital, where he only ate half of his usual portion with a frequency of 2-3 times a day and only ate if fed by his mother. He has had difficulty sleeping for 6 months prior because he wakes up often at night and has difficulty going back to sleep due to nightmares such as being bitten by a snake and death.

Since 6 months ago, the patient has often felt anxious about many things in his life, including things that are not harmful or life-threatening. He has had heartburn since 4 months ago that is often accompanied by nausea and vomiting, which recurs

when eating spicy food, eating late, and especially when having a lot of thoughts in his mind. The patient has often felt useless for these past 2 months. He also feels guilty for troubling his parents and not being able to make them happy. The patient had suicidal thoughts a month ago because he felt ashamed and guilty towards his family, although he was not prompted to commit suicide. The patient had undergone treatment at the psychosomatic polyclinic 8 months ago with persistent headaches but did not return once he ran out of medication.

His physical, laboratory and other supporting examinations were all found to be within normal limits. An ECG examination was performed, yielding normal results, which rule out organic disorders of the heart. In addition, an esophagogastroduodenoscopy was also performed on the patient, and the results were within normal limits. The patient was diagnosed with chronic fatigue syndrome and functional dyspepsia. A chronic fatigue syndrome is a form of psychosomatic disorder, so somatic therapy and psychotherapy approaches were used. For medical therapy, the patient was given lansoprazole and sertraline to reduce functional dyspepsia symptoms.

3. Discussion

Chronic fatigue syndrome is a collection of symptoms characterized by: feeling tired continuously or repeatedly within six months or more, maybe accompanied by symptoms of low-grade fever, myalgia, arthralgia, cephalgia, sore throat (pharyngitis), which is sometimes accompanied by enlarged glands, along with psychological symptoms, especially depression and sleep disturbances. The patient in this case study had symptoms of fatigue that had limited his ability to do normal activities, which left him bedridden for 6 months. In addition, the patient also has complaints of pain throughout his body, accompanied by psychological symptoms of anxiety and depression, along with sleep disturbances. The diagnosis of chronic fatigue syndrome can be made using the 1988 CDC criteria. In this patient, fatigue persisted for more than 6 months, and

additional symptoms were experienced such as a sore throat, myalgia, unexplained muscle weakness, fatigue for more than 24 hours even without activity, headaches, neuropsychological disorders such as photophobia, scotoma, forgetfulness, fatigue, apathy, difficulty concentrating, repression and sleep disturbances.⁸

The patient also complains of chest pain and sometimes palpitations. Chest pain in the patient is a stabbing-like pain that does not radiate to the back. The characteristic of the chest pain felt by the patient is not typical of angina. In addition, the patient also underwent an ECG examination and obtained a sinus rhythm without any changes in the ST segment. Complaints of chest pain in this patient can be based on the manifestation of chronic fatigue syndrome or part of the anxiety experienced by the patient, known as heart neurosis or Dacosta syndrome.⁹

The patient found symptoms of global anxiety disorder with major depression based on the patient's statement that he had thoughts of committing suicide. In addition, the patient has symptoms of sleep disturbances, namely difficulty initiating appropriate sleep as one of the symptoms of anxiety, and sometimes wakes up frequently at night and has difficulty falling back to sleep. This is in accordance with the condition experienced by the patient, namely depression as a manifestation of unpleasant emotional disturbances and may last a long time.

The patient also complained of nausea and heartburn, but the results of his esophagogastroduodenoscopy examination were within normal limits, so functional dyspepsia was established. Functional dyspepsia can be established based on the presence of one or more complaints of fullness after eating, early satiety, heartburn / epigastric pain, or burning in the epigastrium. The complaint lasted for 3 months in the last 6 months before the diagnosis was made and was accompanied by no evidence of structural abnormalities that could explain the complaint (including upper gastrointestinal endoscopy).¹⁰

Functional dyspepsia can occur in the presence of

psychosocial factors because it can cause physiological changes in the gastrointestinal tract, changes in adjustment to symptoms that arise, affect the character and course of the disease, and affects prognosis. Physiological, emotional/psychic stimulation can affect the stomach by way of neurogenic pathways. Namely, the stimulation of emotional conflicts in the cerebral cortex affects the work of the anterior hypothalamus and then the vagus nucleus, vagus nerve, and then the stomach. In addition, the neurohumoral pathway, namely the stimulation of the cerebral cortex, is transmitted to the anterior hypothalamus and then to the anterior pituitary, which secretes corticotropin. The corticotropin hormone stimulates the adrenal cortex and then produces adrenal hormones, which further stimulate the production of gastric acid.¹¹

In addition, psychological and emotional factors such as anxiety and depression can affect the function of the gastrointestinal tract and result in changes in gastric acid secretion, affecting the motility and vascularity of the gastric mucosa and lowering the threshold for pain stimulation. Dyspepsia patients generally experience anxiety, depression, and neurotic symptoms more clearly than normal people. In addition, there has been a lot of data that supports the role of psychological factors in the onset of dyspepsia syndrome with normal endoscopy results.¹²

Therapy in psychosomatic patients includes somatic therapy and psychotherapy approaches. In this patient, somatic therapy is performed for symptoms of anxiety, depression, and dyspepsia. The psychotherapy approach for this patient is relaxation ventilation therapy. Ventilation therapy in this patient is to free the patient to tell what he feels so that biofeedback can be given to the patient so that he can deal with stressors that have been felt for the better.¹³

While relaxation therapy in patients can be done by means of deep and regular breathing, research conducted by Valentina et al., found that deep breathing relaxation therapy can improve cardiorespiratory function, reduce stress levels and improve mood in the group of students studied.¹⁴

Cognitive behavior therapy (CBT) is one of the therapeutic modalities for psychosomatic patients. Cognitive therapy is an approach to shaping thoughts, attitudes, and expectations for the better. The goal of this therapy is to express and change false and sad beliefs because often, it is not the situation or problem itself that causes the problem but the thoughts themselves that cause the stress reaction. Behavioral therapy comes from the word behaviorism which means that human habits can be learned, forgotten, and formed into new ones. The purpose of this therapy is to find things that make stress or exacerbate stress for the patient. Then the next step is to change the habit. In patients with anxiety disorders, CBT can be used to make the patient calm and reduce anxiety. In depressed patients, this cognitive therapy can help identify the patient's stress mechanisms so they can find ways to be more active.¹⁵

Based on research conducted by White et al., Cognitive behavior therapy (CBT) and grade exercise therapy (GET) have a better impact on the development of chronic fatigue syndrome patients compared to specialist medical care (SMC) alone. Therefore, the importance of the CBT management approach in psychosomatic patients can be carried out for maximum results.¹⁶

Prognosis in psychosomatic patients does not only depend on how the patient deals with their stressor, but support from the environment and family will greatly affect how the patient will deal with existing stressors. In this patient, the prognosis *quo ad Vitam* is *Bonam* because there are no complaints or disturbances in vital signs. *Quo ad functionam* is *ad Bonam* because the patient has an improved response after the therapy given. As for the *quo ad sanationam*, it is *dubia ad Bonam* because even though the patient has been able to carry out daily activities, the patient still has to be assisted in several ways. In addition, chronic fatigue syndrome has characteristics that tend to persist, so educational explanations for families and patients are included regarding the importance of routine control in the treatment of these patients.¹⁷

4. Conclusion

Chronic fatigue syndrome is a collection of symptoms characterized by complaints of fatigue that lasts continuously or recurs within six months or more the main psychological symptoms are depression and sleep disturbances and may be accompanied by symptoms of low-grade fever, myalgia, arthralgia, cephalgia, sore throat (pharyngitis) which is sometimes accompanied by enlarged glands. The management approach for chronic fatigue syndrome can be based on general treatment, which includes symptoms of physical and psychological complaints. In these circumstances, it is necessary to give antidepressant drug therapy and psychotherapy, such as cognitive-behavioral therapy. In addition, physical rehabilitation therapy is also needed because several studies show that gradual physical exercise shows significant improvement. In contrast, excessive rest will increase feelings of fatigue and increase the risk of depression. Giving multivitamins to patients can also be an adjunct therapy for these patients.¹⁸

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