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A case report of a patient in adult care unit with diabetic foot

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***Abstract*---**As the population ages and life expectancy increases, type 2 diabetes is more prevalent. Geriatric symptoms, such as cognitive impairment, depression, urine incontinence, falls, and polypharmacy, are common in seniors with diabetes mellitus. Elderly patients have a wide range of functional abilities, which means many unsolved concerns concerning diabetes care. The study's goal is to examine a patient in an adult care unit diagnosed with type 2 diabetes (DM2) 24 years ago. As with younger patients, the treatment of diabetes in the elderly focuses on hyperglycemia and associated risk factors. Patients' comorbid conditions and functional limitations must be considered while defining treatment goals. As a result, each patient's care should be tailored to their specific needs. When treating diabetes in senior individuals who are more susceptible to hypoglycemia, hypotension, and medication interactions, care should be taken to prevent these side effects. Management of various medical disorders is particularly critical since it impacts the capacity of these people to care for themselves.

***Keywords*---**elderly, diabetes, chronic disease, DM complications.

Introduction

Diabetes has been the most prevalent endocrine disorder in the world. Since 1980, there has been a significant increase in cases. Diabetes is expected to affect 1.4 billion people by 2030, up from 850 million in 2010 [1]. Patients with diabetes mellitus are at greater risk of developing complications, including foot ulcers & peripheral neuropathy, because of their condition's worsening glycemic control and worse adherence to glycemic goals (DM). DM is linked to renal failure & cardiovascular disease if it is not controlled [1].

Disabilities, psychological discomfort, and higher mortality risk are consequences of many chronic illnesses. Healthcare systems have had to deal with increased demand because of the increased frequency of chronic illnesses in recent years.

The use of case management programs as part of a multidisciplinary team approach to chronic illness treatment is rising. However, a case management approach for patients with complicated multi-morbidity does not seem to have a significant influence on hospital resource consumption [2]. It is also worth noting that the healthcare costs associated with multi-morbidity are more than those of a single patient.

Case presentation

Diabetes (DM2) was diagnosed in an 82-year-old woman 24 years ago. Skin hypersensitivity and neuropathic motor pain, metatarsophalangeal arthropathy with no indications of osteomyelitis, and diabetic arthropathy were all related to this condition. The metatarsophalangeal portion of the patient's foot has been inflamed for two years. No matter how much time passed, they never fully recovered. Recurring foot discomfort and blisters necessitated many hospitalizations. Many times, she was given IV antibiotics. The doctors informed the elderly patient that she could eventually need an amputation, as there are signs of Ischemic foot development.

Right now, and according to the assessment of the patient, we know the importance of care to control foot sores on diabetic feet. Her obedience to follow dietary rules was not as it should have been. However, the metabolic control of her disease was average as of her 6.4% glycated hemoglobin levels. Treatment during hospitalization: - Insulin 25 units: once a day, Atorvastatin® 10mg: once a day- Aspirin® 200mg: once a day - Neurobion B1-B6 - B12®: once a day. She was currently not in pain treatment although he has used Tramadol® but has stopped taking the medication due to side effects.

The patient was treated for foot ulcers and is on a diabetic diet to avoid high blood sugar and weight gain. She uses a walker to move. The topical treatment was topical Hyper-oxygenated fatty acid compounds (HFAC): three times a day on both feet, wearing socks to support the legs. On physical examination, she had a high rate of hyperkeratosis, swollen toes and bad breath. The areas between the toes fingers are also wet, soft and with excess exudate. The dorsal pedal and posterior tibial pulses in the right foot are not very weak. Onychomycosis is present in all nails.

General overview

The increased frequency of chronic illnesses and long-term ailments has put pressure on healthcare systems. A significant shift in the care process is needed to encourage proactive health and stability instead of reactive attention and therapy. For this reason, international initiatives call for innovative methods of providing high-complexity and patient-centered services [3]. Innovative long-term care models focused on tailored treatments, sustained health services, closed-loop interactions, enhanced service quality, and scientifically validated medical practices are suggested by international research to support this approach.

Case management (CM) programs have arisen as a method for managing chronic diseases that aim to improve patients' health while also meeting their social

requirements. It is still unclear if chronic patients who participate in CM programs benefit from reduced healthcare use, improved clinical characteristics, or better outcomes [4]. Variability of actions created under the term "case management" and the variety of illness profiles on patients under research provides significant challenges and hurdles to assessment. There is a growing trend in the population of several chronic illnesses, so most studies focus on one chronic ailment or an aged population rather than the prevalence of multiple chronic disorders. The term "complex multi-morbidity" is more often used to describe this condition.

Background

As the population ages and life expectancy increases, type 2 diabetes is more prevalent. Additionally, geriatric syndromes, including cognitive impairment & depression, urine incontinence, and falling, polypharmacy, et sarcopenia, are all common side effects of aging in people with diabetes mellitus. How type 2 diabetes affects a person's ability to build muscle remains a mystery. Sarcopenia is characterized by a gradual decrease in skeletal muscle mass, which explains why muscular strength and athletic performance drop. There is an increased risk of developing sarcopenia and physical impairment in older adults with type 2 DM. In type 2 diabetes, muscle tissue protein turnover changes may play an essential role in the etiology of these abnormalities.

One of the main reasons for the lack of research on diabetic older people is that their functional condition varies greatly. In contrast to studies aimed at young people, the physiological changes that occur with age make it more challenging to conduct research. Consequently, there are several unsolved concerns about the administration of diabetes medication in older individuals. Because of this, the "patient-centered" therapy approach is becoming more popular among the elderly population [3]. Age-related glucose intolerance and postprandial hyperglycemia are two hallmarks of diabetes in senior adults. Diabetes in the elderly is caused by a reduction in beta-cell-compensating ability due to aging, which results in insulin resistance. Since the incidence changes depending on the tests employed to diagnose aged persons, this also does. If a person is tested for A1C or FPG, a third of them cannot be diagnosed.

Diabetes mellitus (DM) is more common as we become older. In this way, persons may be diagnosed by chance beyond 65, or they may have been diagnosed with diabetes in middle age or earlier. The general treatment recommendations for these two groups may be confused because of their varied demographic and clinical features [4]. People of non-Hispanic white ethnicity are more likely to develop age-related DM, characterized by a lower A1C and less insulin usage. Adults diagnosed with diabetes in middle age are more likely to have retinopathy. However, there is no significant difference in the prevalence of chronic disease (CVD) or neuropathic pain between the two groups. Adults with diabetes have an increased risk of developing lower extremities amputee, myocardial infarction (MI), visual impairment, and kidney failure. Patients over 75 are more likely to suffer from several health issues than those in the 65-74 age range.

The condition is tough to control since it demands a great deal of time and effort on the part of the patient. An interdisciplinary team approach is needed for a patient with severe diabetes and neuropathic consequences, such as recurring foot sores, to provide the best possible care. Doctors and nurses will have to collaborate to develop a treatment strategy. The patient must be well-informed about her ailment since a positive attitude may significantly aid patients in coping with therapy [5]. Diabetic foot ulcers have improved in recent years. Amputations due to foot ulcer illness are decreasing, according to recent studies. New and improved methods of treating ulcers will not only assist in avoiding amputations but may also minimize the number of times patients have to attend the hospital. Even though leg supports are not a replacement for appropriate footwear, the patient will be forced to use them at home or outdoors to prevent putting extra pressure on her feet with shoes or slippers.

Care management and outcome

The frequency and danger of foot ulcers have reduced in recent years as the treatment of diabetic ketoacidosis (DM) has advanced. Diabetes patients, even though this is the case, are nevertheless in danger of developing severe foot ulcers. This is merely one of many diabetic secondary problems that might lead to amputations in the absence of treatment and should not be overlooked. Today's discussion will focus on the origins, consequences, and treatment options for diabetic foot ulcers that are successful.

Diabetes patients in their golden years should participate in activities that are tailored to their abilities. Patients with coronary artery disease or at high risk for cardiovascular disease should have their electrocardiograms and cardiac tests conducted before engaging in any physical activity, especially strenuous exercise. To maintain their functional independence, it is recommended that functionally independent persons participate in moderate aerobic exercise at least five days per week for a total of 30 minutes on each of those days. In addition, physiotherapists should be consulted for those at risk of falling to strengthen their balance and muscle strength before participating in an activity.

Patient education on medical nutrition should be provided to diabetics, and their treatment should be tailored to fit their specific requirements and circumstances [6]. When designing an eating plan, it is essential to consider age-related and person-specific differences (such as degradation in taste, additional illnesses, dietary restrictions, poor digestive health, decreased capacity to buy, and reduced food preparation capabilities).

Discussion

Chronic sickness is a growing problem for both health care and social policy. Researchers have looked at several different approaches to solving this problem. On the other hand, the findings demonstrate no significant decreases in hospital resource use. Insulin production and action problems are the root cause of diabetes mellitus, a metabolic disease. Insulin resistance and autoimmune pancreatic beta-cell loss are the primary causes of type 1 diabetes (DM1), whereas DM2 is the primary cause of type 2 diabetes (DM2). Microvascular symptoms may

affect small blood vessels, whereas big blood vessels can be affected by macrovascular symptoms. Insulin-mediated hyperglycemia, polydipsia, polyuria, and weight loss are symptoms of Type 1 DM (a).

There are two types of diabetes: type 2 and type 1 DM (DM2). Diabetes mellitus type 2 has both microvascular and macrovascular complications. Weight gain, lack of exercise, and a poor diet all contribute to the development of type 2 diabetes. Glucose control and preventing ketoacidosis are the primary goals of Type 1 DM therapy. HbA1c is not a reliable indicator of blood glucose control for the last two to three months, and capillary blood glucose monitoring is recommended instead. Diet, exercise, and oral hypoglycemic medicines lower insulin needs in people with type 2 DM. Micro and macrovascular consequences may result from untreated illness.

Nurses may play a variety of roles to achieve healthcare goals. Nurses provide seven critical roles: administering health care, linking care, teaching, consulting, leading, and studying. Nursing duties include examining shoes before putting them on, keeping the feet clean, and taking care of their skin and nails in the situation, as mentioned earlier. It is also critical to get instruction on proper shoe choosing [7].

Antibacterial therapy, hypoglycemia medications, insulin, and clean and sterile procedures are all she needs to keep her foot clean and free of infection, assisting her with correctly using an antibiotic or other prescribed ointment. Keep feet out of the extremes of heat and cold. Antibiotics should be prescribed based on results from cultures and sensitivity swabs collected by nurses and sent to the lab for testing [6]. Moreover, educating patients on how to administer and adhere to their medication. Learn how to recognize and report signs of infection. To aid people with diabetes, nurses may examine and treat their feet and encourage regular follow-up appointments. For the most part, screening is used to detect diabetic foot concerns early, identify persons at risk, and plan to reduce the risk of ulceration.

Diabetic foot examinations should be performed at every visit. To identify patients at risk of developing diabetic foot problems, nurses should remove their shoes and socks and evaluate their feet. In diabetic foot specialty clinics, the ABI and toe pressure are employed. Diabetic ulcer risk may be identified using petrography and a thermometer to measure the pressure and temperature of the foot sole. We are seeing an increase in the prevalence of chronic diseases in our society, which necessitates the development of treatments that are more long-term, optimum, and personalized. Patients with difficult multi-morbidities benefitted from our CM intervention since it reduced hospital costs while also reducing hospitalizations and improving the quality of care. Having a multidisciplinary team of primary care clinicians, nurse case managers, social workers, and a hospital at home unit regularly monitor patients with difficult multi-morbidity may help them avoid hospitalization. Policies and practices must support integrated care interventions for both patient and family networks.

Conflict of interest

The author declares no conflict of interest

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