Type 2 Diabetes Case Study

[Name of the Writer]

[Name of the Institution]

Type 2 Diabetes Case Study

# Pathophysiology Of Type 2 Diabetes

The first thing that has to be noted about the Type 2 diabetes is the fact that how there are many dysfunctions that are associated with the hyperglycaemia and what it results into is the combination of the resistance that can be seen to be developing towards the usage of the insulin. The idea thus has to be to make sure that the interventions are developed in the manner that allow the stoppage of the inadequate insulin secretion as well as the inappropriate glucagon secretion. In the hindsight, the impaired insulin secretion and the increased resistance to the insulin are some of the defining features of the way whole thing (Nielsen & Baron, 2016). The other factor that is very important during the course of the whole process is that how the pathophysiological features of the type 2 diabetes are needed to be kept in mind (Napolitano et al, 2014). Recently, there has been recognition at the broader level that how the functional pancreatic cell mass might decrease with the passage of time and how in the hindsight, the type 2 diabetes might turn out into a progressive disease. The other studies have suggested that there are environmental factors at work as well when it comes to the determination of how the gene factors are needed to be determined at the particular point of time (Li et al, 2014). The other thing that is quite important during the course of the whole process is that how the treatment of the Glucolipotoxicity is needed to be done. Special care has to be dedicated towards the treatment of this ailment due to the fact that the patient in this case is facing chronic sickness issues that might be compounded with the passage of time. Not only that, the goal of the whole treatment is to ensure that the prevention of the onset of the diseases is being managed as well as making sure that the Quality of the Life for the patient is kept in mind during the course of the whole process (Nielsen et al, 2017). In this case, the other element that is very important is that how the lifespan comparison is going to be carried out specifically in the cases where the comparisons are needed to be made with the healthy people. It is an important pre requisite as far as the way treatment is supposed to be done and if things are managed at the onset in a better manner, it could go a long way towards making sure that the adequate patient care is being provided to the diabetes Type 2 level. There is also the need to ensure that the initiation of the proactive intervention has to be done at all the levels and the importance of the comprehensive interventions has to be the key goals in this regard (Nunez et al, 2016). During the way the determination of the pathophysiology of the disease is being done, it is very crucial to make sure that some sort of understanding is developed with regards the role genetic factors and the lifestyle choices of the person play (Kang et al, 2016). For instance, people who are obese and who do not have control over their diet are the ones that most of the times are more prone to these diseases. On the other hand, the patients who have degree of control over their lifestyle, their choices and preferences have a higher likelihood that they are going to take care of the eventual disease in an appropriate manner (Nunez et al, 2016). So, all these factors go a long way towards making sure that when the determination of the type is done. There are instances when people have more diabetes sensitive genes so that probably also acts as a reason (Islam & Choi, 2017). Low blood sugar, or hypoglycemia, can occur in people taking medications for diabetes. Severe hypoglycemia can be dangerous because you may pass out. Signs to watch out for are feeling dizzy, nervous, weak, and shaky. You may also sweat, feel sleepy, confused, or hungry, or have trouble speaking. Diabetes self-management education (DSME) is the process of facilitating the knowledge, skill, and ability necessary for diabetes self-care. Diabetes self-management support (DSMS) refers to the support that is required for implementing and sustaining coping skills and behaviors needed to self-manage on an ongoing basis. The initial DSME is typically provided by a health professional, whereas ongoing support can be provided by personnel within a practice and a variety of community-based resources.

# Immediate Management and Nursing Approaches for the Patient

As discussed in the earlier section, the basic idea of the whole intervention has to be to make sure that the quality of the life of the patient has to be restored. In order to ensure that happens, one of the first thing that is needed to be done is to make sure that the pre requisite is needed to be developed with regards to how the goals for the treatment are needed to be setup. What it means is to ensure that whatever the control complications that are going to be faced during the course of the treatment, they are needed to be take into account and then intervention plan has to be adopted to ensure that it works out well (Nunez et al, 2016). The other thing that can be done is to make sure that drugs and the other medications that are going to bring about a level of control to the state of the patient are needed to be introduced (Nunez et al, 2016). The idea behind the whole exercise must be to make sure that the comprehensive interventions are brought on board that includes have a degree of control over the blood pressure level of the patient as well as making sure that some other vital statistics are monitored (Harrigan et al, 2016). What it means is that the nurses that are on duty are needed to operate in the manner that should allow all the stakeholder to work in the manner that allows greater advantage to the different stakeholders at the particular point of time. Not only that, effort has to be made to make sure the treatment is being continued for a longer period of time so that the condition of the patient can be improved (Harrigan et al, 2016). There has to be close watch on all the vitals of the patient and not until the condition has been improved there has to be leeway in terms of the medication and control. Now, the most important thing this to be done during the course of the whole process is that how each of the initiation process is going to be working out and what is going to be the progression plan in this regard. This is where the management of the patient becomes all the more important. Here, effort has to be made by the doctor to make sure that they are studying and analysing the effects of the glucose toxicity as well as making sure that how the preservation of the pancreatic cells is going to be made at the given point of time (Harrigan et al, 2016). The management has to be done with regards to how the microvascular diseases are going to be controlled at that particular point of time and how different control elements are needed to be implemented at the given time period (Harrigan et al, 2016). Not only that, the long-term blood transfusion is one of the core concepts that is needed to be kept in mind when there has to be a degree of control with regards to the way management of the disease is needed to be carried out. Not only that, it is very crucial that the management considers the treatment paradigm for the patient as well regarding how different viewpoints are going to be converging at the particular point of time and how the progression is going to be made in this regard (Harrigan et al, 2016). The aim of all the stakeholders thus have to be to allow the treatment schedule for the patient to be followed all the time and how the IGT primary prevention tools are going to be implemented at the particular point of time.

# Education plan for the patient

Once the condition of the patient is improved, the next thing that has to be done is to make sure that the host of lifestyle changes are needed to be adopted as far as how it is going to be made sure that the learning and treatment care is going to be implemented at the particular point of time (Harrigan et al, 2016). The effort has to be there in terms of how it can be made sure that the long-term treatment needs, and care has to be provided to the patient at a particular point of time. One of the key changes that are needed to be made here are into the way diet and the lifestyle changes are going to be made. The idea must be to make sure that how the blood sugar level is supposed to be kept normal as well as making sure that the prevention of some of the other problems is being carried out. Not only that, effort has to be made to make sure that the tests and the medications are needed to be taken in a timely manner and there has to be no delay in this regard. It has to be noted that the symptoms and the issues that are related to the Type 2 diabetes are much more severe as compared to the one that are faced during the course of the type 1 diabetes and thus there is a need to ensure that the considerable changes are brought into the lifestyle of the person. The patient should also be educated about how they should be keeping track on their statistics, specially the blood pressure and the blood sugar level and they should be able to read and interpret different numbers to have sense of insight regarding at what stage their recovery is. Not only that, the patient needs to be aware with regards to the problems that are face during the course of the hyperglycaemia or the high blood sugar. There are severe side effects of this ailment such as the poor vision, or cuts not being healed in the given point of time. Not only that, there are vaginal and skin infections that are faced by the patients as well as the nerve damage. So, there is a need for the patient to be careful about how they are going to be looking after the whole damage and how the situation is going to be controlled at the broader level at the given point of time. There are some early warning signs as well that the patient needs to know and be alarmed off if they are happening. The first thing is that they need to be aware about is that if they are having headache, or lapse in the concentration or even the blurred vision then they should be making sure that they are consulting with their doctor or checking their vitals. Not only that, the other thing that has to be done is that if they are finding their vision to be blurry, or frequent urination is happening then this is another sign that the blood sugar level is distorted. There is also feeling of lethargy and being weak and if that is the case, then further effort is needed to be made to control and bring about the change in the lifestyle as well as making sure that one is consulting with the physician and taking medical council. In the hindsight, even though it is hard to control these issues, if the considerable lifestyle changes are brought then the situation can be improved. Another possible complication of diabetes is hyperglycemia, or high blood sugar. It can cause poor vision, slow-healing cuts and sores, vaginal and skin infections, and nerve damage. Early signs include increased thirst, headaches, trouble concentrating, blurred vision, frequent urination, weight loss, and feeling weak and tired.

**References**

Harrigan, R. A., Nathan, M. S., & Beattie, P. (2016). Oral agents for the treatment of type 2 diabetes mellitus: pharmacology, toxicity, and treatment. *Annals of emergency medicine*, *38*(1), 68-78.

Islam, M. S., & Choi, H. (2017). Nongenetic model of type 2 diabetes: a comparative study. *Pharmacology*, *79*(4), 243-249.

Kang, E. S., Park, S. Y., Kim, H. J., Kim, C. S., Ahn, C. W., Cha, B. S., ... & Lee, H. C. (2016). Effects of Pro12Ala polymorphism of peroxisome proliferator‐activated receptor γ2 gene on rosiglitazone response in type 2 diabetes. *Clinical Pharmacology & Therapeutics*, *78*(2), 202-208.

Li, H., Zhao, L., Zhang, B., Jiang, Y., Wang, X., Guo, Y., ... & Tong, X. (2014). A network pharmacology approach to determine active compounds and action mechanisms of ge-gen-qin-lian decoction for treatment of type 2 diabetes. *Evidence-based complementary and alternative medicine*, *2014*.

Napolitano, A., Miller, S., Nicholls, A. W., Baker, D., Van Horn, S., Thomas, E., ... & Nunez, D. J. (2014). Novel gut-based pharmacology of metformin in patients with type 2 diabetes mellitus. *PloS one*, *9*(7), e100778.

Nielsen, L. L., & Baron, A. D. (2016). Pharmacology of exenatide (synthetic exendin-4) for the treatment of type 2 diabetes. *Current opinion in investigational drugs (London, England: 2000)*, *4*(4), 401-405.

Nielsen, L. L., Young, A. A., & Parkes, D. G. (2017). Pharmacology of exenatide (synthetic exendin-4): a potential therapeutic for improved glycemic control of type 2 diabetes. *Regulatory peptides*, *117*(2), 77-88.

Nunez, D. J., Bush, M. A., Collins, D. A., McMullen, S. L., Gillmor, D., Apseloff, G., ... & Feldman, P. L. (2016). Gut hormone pharmacology of a novel GPR119 agonist (GSK1292263), metformin, and sitagliptin in type 2 diabetes mellitus: results from two randomized studies. *PloS one*, *9*(4), e92494.