

Metabolic disorders case studies



**ASSIGN
BUSTER**

[Teacher's Metabolic Disorders Type 2 diabetes is a metabolic disorder that commonly develops after forty years of age on the background of different etiological factors. Studies have suggested that the etiology of the disease may have some genetic predisposition. There are also other etiological factors that have been found to act independently or in the background of genetic factors to cause Type II diabetes. These etiological factors include any activities that involve a “diabetogenic lifestyle” such as the consumption of a high calorie diet, obesity and a sedentary lifestyle (Vijan, 1). Other risk factors to developing type II diabetes include age, race, and history of glucose intolerance, polycystic ovarian syndrome, dyslipidemia or hypertension. Some genes that were found to play a role in type II diabetes include HNF-1-alpha and beta, CEL, APF-1, BLK, INS just to mention a few (Vijan, 1). The patient may have genetic predisposition to type II diabetes. The patient's treatment shows that she is taking Ramipril which is an ACE inhibitor suggesting that her hypertension and underlying causes may have been one of the etiological factors towards her development of type II diabetes.

Clinical signs of diabetes mellitus can vary depending on the stage of the disease. The main presentations include, weight loss, polydipsia, polyuria and polyphagia. Other signs that may indicate an elevated level of blood glucose include yeast infections, blurred vision and paresthesias. As mentioned above, the symptoms depend on the stage and severity of damage that has been caused to the organism by the hyperglycemic state. In the majority of patients, the disorder is undiagnosed for many years due to the asymptomatic state of patients. According to several studies, patients with type II diabetes may remain asymptomatic for approximately six years.

In later cases of the disease patients may lose all sensation in the extremities due to the development of diabetic polyneuropathy and they will also have signs of macroangiopathies. The patient had already developed Diabetic Ketoacidosis which may suggest that she has the majority of symptoms mentioned above as her condition has already progressed.

There are several different groups of drugs that have been used to treat type II diabetes. The drugs are chosen based on the lifestyle of the patient and response to different treatment plans. This is assessed by the HbA1c level of the patient which is usually targeted at 7%. The first line of treatment involves changes of lifestyle along with the use of a Biguanide such as Metformin. The second line therapy includes the use of sulfonylureas of the second generation such as gliburide or glimepiride. Alpha glucosidases may also be used as third line therapy and these include acarbose and miglitol. Currently the patient is taking a meglitinide (repaglinide) which is an insulin secretagogue and has a similar but weaker mechanism of action to sulfonylureases.

The physiotherapy examination approach will take into consideration the patient's diabetic state and hence will involve a risk assessment for the development of complications in the extremities. There will be a comprehensive risk assessment and evaluation performed on the feet of the patient. The BMI of the patient would also be evaluated in order to establish the approach weight loss target. The intervention will involve the prescription of aerobic along with resistance exercises that take into consideration the weight of the patient and the complications that may exist in her joint structure as well as cardiovascular system. For the patient's adhesive capsulitis, ROM exercises such as AROM, PROM and AAROM will be

performed (Chiaia, 2-7). The patient will be given TEN to relieve pain. Exercising for strengthening the joint will also be carried out and these will be done within a range that is pain free (Neviaser and Neviaser, 536-542). The joint will also be mobilized and in the early stages grades I-II will be utilized for the improvement of joint nutrition and reduction of pain and later grades three to four will be used to enhance the tissue extensibility (Neviaser and Neviaser, 536-542). Stretches and application of moist heat will also be done on the shoulder. Precautions will consider the status of the joints of the women and other complications that maybe present due to type 2 diabetes.

Works Cited

- Chiaia, Theresa A., and Jo A. Hannafin. " Adhesive Capsulitis." Techniques in Shoulder & Elbow Surgery 15. 1 (2014): 2-7.
- Neviaser, Andrew S., and Robert J. Neviaser. " Adhesive capsulitis of the shoulder." Journal of the American Academy of Orthopaedic Surgeons 19. 9 (2011): 536-542.
- Vijan, Sandeep. " Type 2 diabetes." Annals of internal medicine 152. 5 (2010): ITC3-1.