Congenital lipodystrophy has no effect on her soccer training or physical activity. She meets with the nutritionist on site to set up a meal plan which included adding more protein into her diet to slow down her carbohydrate metabolism. She eats 85 grams of carbohydrates and 100-120 grams of protein every day. Her blood glucose levels should be at 7mg in the morning and 8-10mg after each meal. 4 Her food preferences for healthy grains are whole grain bread, whole grain cereal, and fig bars. She enjoys getting her fruits in with fresh fruits and vegetables. She also enjoys yogurt and milk. Due to increase in protein intake, she is starting to use protein supplements to help achieve her required consumption. Once she is familiar with this amount of intake, we will start eliminating supplementation and adding a variety of whole food proteins. 9 Student athlete states that she is lactose intolerant. She was advised to drink lactose free milk with her cereal instead of almond milk. She is still over the carbohydrate percentage recommended by her nutritionist. She discussed with her nutritionist eating less cereals and bagels almost everyday and increasing her protein intake by eating more chicken and other meats. She is low in Vitamin C, D, E, and K. She was advised to add more fruits and vegetables. 

Discussion and Summary

Lipodystrophy is a very rare congenital condition and has a lot of serious correlating factors. Diabetes is one of the most common factors of lipodystrophy. Diabetes is a abnormal rise in blood glucose levels that is also called hyperglycemia. Type 2 diabetes do not use insulin properly leading to insulin resistance. The west of the factors is hypertrophic cardiomyopathy, which the myocardium of the heart is abnormally thick. Hypertrophic cardiomyopathy is the number 1 leading cause of sudden death of young athletes. As you can see with the case study, lipodystrophy is not a ineligible condition in sports but the relating factors can lead to serious conditions leading to lethargy.

Other possible treatments for lipodystrophy are leptin treatment has been shown to be effective and safe in managing abnormalities in glucose and lipid metabolism and diabetes mellitus. In lipodystrophy, the leptin levels and cellular leptin sensitivity is reverse. In lipodystrophy, leptin levels are low and cells are susceptible to it; therefore, leptin replacement therapy is used as the primary treatment of choice. Currently, the 4-month leptin-replacement therapy consisting of twice-daily injection protocol was stated to enhance glucose levels and lipid levels. Administration of leptin has been shown to improve glucose metabolism in both animal and human studies. The dosage of leptin is calculated based on body weight, and it is administered subcutaneously twice daily. Leptin replacement therapy is an effective and safe treatment for lipodystrophy complications. The once-daily lepin injection is beneficial to manage glucose and lipid metabolism for a long period of time. This research shows that leptin replacement therapy is a sufficient and safe treatment for long-term improvement of glucose and lipid metabolism and obesity in generalized lipodystrophy.