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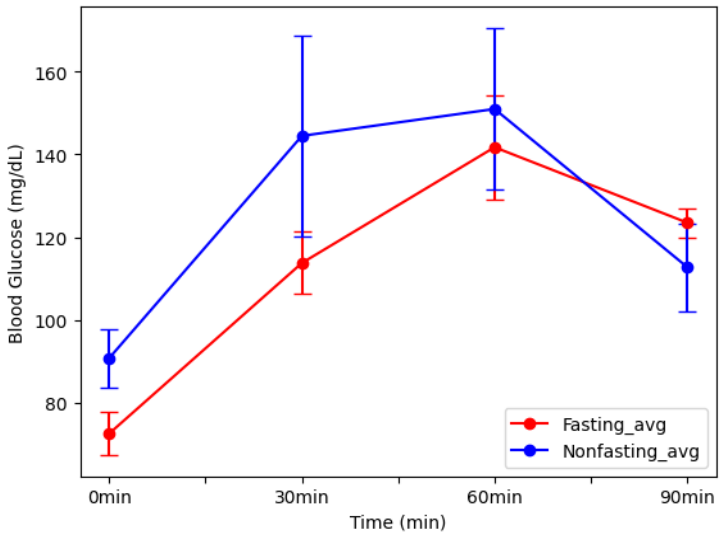
Tuesday Lab

Laboratory 8-Hormonal Activity

Purpose- Monitoring your glucose levels is a very important thing to check from time to time because it helps you to know if you are reaching the right glucose targets, which regulates symptoms of high or low blood sugar to avoid long term complications. Insulin is an endocrine hormone that is secreted by beta cells, its function is to assist the transport of glucose across the cellular membrane. When someone is lacking insulin, a small amount of glucose can cross the cell membrane and be used in cellular metabolism. The normal concentration for blood glucose is 90%mg, but it can range lower or higher depending on the individual's dietary intake of glucose. In diagnosing diabetes there are many tests that are performed to see what metabolic error is happening to cause the disease. The purpose of laboratory 8 is to take the glucose tolerance test and compare the results with the average glucose levels to see if our glucose levels are average or abnormal due to fasting or nonfasting.

Procedures- The procedure for the glucose tolerance test was very straightforward. First we had students volunteer to fast for 12 hours, we had four people who fasted and four people who didn't fast do this experiment. Each participant was to drink a lemon flavored solution (Tru-Glu) of 25% glucose. The quantity of how much solution to drink was based on 1g of glucose per kilogram of body weight, which was determined by dividing the weight of pounds by 2.2. After ingesting the right amount of glucose solution according to their weight, they were to test their glucose level by using the test strips for the glucometer. They were to clean the tip of their finger with an alcohol wipe and use a sterile lancet to obtain a drop of blood for the test. After they tested their glucose level after ingesting the solution, they were to check their glucose levels again at 30 minutes, 60 minutes, and 90 minutes. We then had to get the results, make a graph of the class results, and compare it with the normal glucose tolerance test curve.

Results-
Results for 8A-Glucose tolerance test



Discussion- The experiment for laboratory 8 was a very interesting experiment to do, even though I was not one of the students to actually participate in the procedure. I did not want to volunteer to participate in it because I have a fear of needles and I would not want to prick my finger if I did not have too, I was just too scared! Also after observing the students drink the solution during the lab, it didn't look like it was something I would want to drink, their facial expressions showed that it tasted nasty. The results of this experiment were kind of all over the place, there were some students who fasted where their glucose levels went up and back down again and there were students in the nonfasting group where their glucose levels started off low and others started off high. I noticed that the glucose levels for the fasting group had lower averages of glucose levels than the students in the nonfasting group. Comparing the graph of the class results to the graph of the normal glucose tolerance test, I can see that they look about the same. Both of the graphs have a major increase in the beginning of them and then they both start to drop down closer to the end.

Conclusion- The results for the glucose tolerance test showed the class average glucose levels and we were to compare the results to the results of the normal glucose level graph. It is very important to have an idea of your own glucose levels so they can be regulated so that symptoms of low or high blood sugar do not occur. A diabetic's abnormal glucose levels are caused by the inability of the pancreas to secrete added insulin in response to increased glucose levels. In conclusion this experiment was a very important one to do so we know and understand how exactly we can regulate our glucose and so we can make changes to our diet if needed.