Purpose

The glucose tolerance test assays the ability of the body (especially the pancreas) to respond to an excess ingestion of glucose. The changes in blood glucose level following glucose ingestion (1 g/kg body weight) are markedly different between the normal and the diabetic person. This difference is shown in Figure 8.1. In the normal person, the blood glucose level rises from about 90 mg% to around 140 mg% in 1 hour and then falls back to normal within 3 hours or even below normal due to excess insulin release by the pancreas. The diabetic person shows a hyperglycemic response in which the blood glucose level rises from about 120-160 mg % to as high as 300 mg% and then slowly falls to the fasting diabetic level after 5-6 hours. The diabetic's abnormal response is caused by the inability of the pancreas to secrete additional insulin in response to elevated blood glucose levels.

Procedure

1. Six student volunteers will be selected for this experiment. These subjects should report to the lab in the fasted state – not having eaten for 10-12 hours.

2. Each student's normal fasting blood glucose level will be determined using the test strips for the glucometer assigned to each student. Each volunteer will clean a finger with 70% alcohol, then use a sterile lancet to obtain a drop of blood for the test. **If a student is helping another obtain a blood sample, gloves and universal precautions will be followed.

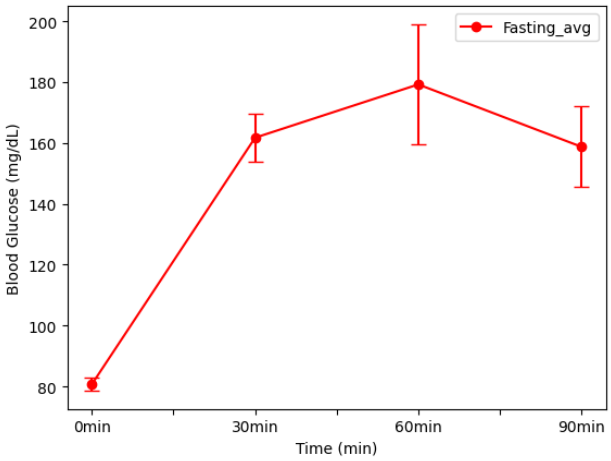
3. Each subject will then drink a lemon-flavored solution (Tru-Glu) of 25% glucose. The quantity of solution will be based on 1 g of glucose per kilogram of body weight. To determine body weight in kilograms, the weight in pounds will be divided by 2.2

4. After ingesting the glucose, the subject will repeat the blood testing procedures every 30 minutes. Testing will continue in this manner for 1 1/2 hours or until the end of the lab period.

5. Record and graph the average of the class results of the blood glucose tests.

6. Compare the results with the normal glucose tolerance test curve. Describe the graphs in terms of absorptive and post-absorptive states.

Results (Thurs lab)



Discussion

Although I did not participate in this lab it did appear to be an easy straightforward lab. The data seems to be in line with what I would expect from fasting for ten hours then consuming a glucose mixture.

Conclusion

This lab seemed to be an easy lab for the participants involved. The lab required fasting for 10-12 hours then ingesting a glucose solution and blood test every thirty minutes for an hour and a half to monitor the uptake of glucose in the bloodstream.