

Title : Lab 8- Hormonal Activity: The Glucose Tolerance Test

Purpose

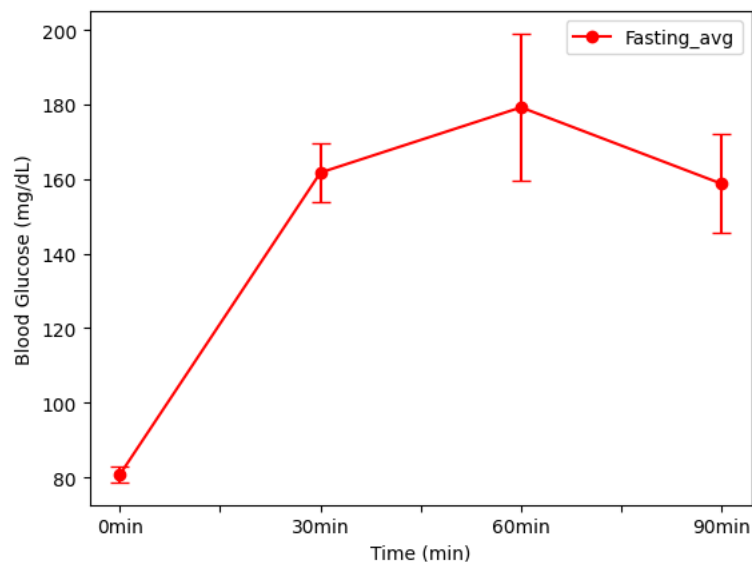
The purpose of this experiment is to assay the ability of the body to respond to an excess ingestion of glucose. We will be using the math equation of (1g/kg body weight). In a normal person it usually takes for the glucose to rise in 1 hour and then fall back within 3 hours. In a Diabetic person it will cause the inability of the pancreas to secrete additional insulin.

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 teststrips 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 graph in terms of absorptive and post-absorptive states

Results

	fasting	fasting	fasting	fasting	Fasting	fasting	fasting	Fasting average	Fasting sem
Group	1	2	3	4	5	6	7		
0min	75	77	85	86	103	81	83	80.75	2.101587
30min	140	159	158	190	141	131	161	161.75	7.845988
60min	154	135	174	254	171	152	180	179.25	19.773419
90min	151	141	133	210	170	185	191	158.75	13.210295



Discussion

We were able to see the glucose curve and see how it was going back down at 90 minutes. We were able to see how during fasting the first blood draw was at 80 mg/dL and how after the glucose drink it rose up to 150 - 170 mg/dL. This was only after 30 minutes after drinking the glucose. At 60 minutes it reached its highest point ranging from 160 - 200 mg/dL. After that it went back down.

Conclusion

In conclusion we were able to see how quickly your blood sugar could rise after drinking a sugary drink and how long it is before it goes back down. I was also able to understand what causes insulin shock. I also learned that in NIDDM, hyperglycemia arises from the loss of normal tissue activity to insulin, it is also known as insulin resistance. In IDDM, hyperglycemia arises from insufficient production of insulin from pancreatic cells due to autoimmunity. I also learned that an acidosis is an excessive acid condition of the body fluids or tissues.