

Title: LABORATORY8–HORMONAL ACTIVITY:THE GLUCOSE TOLERANCE TEST

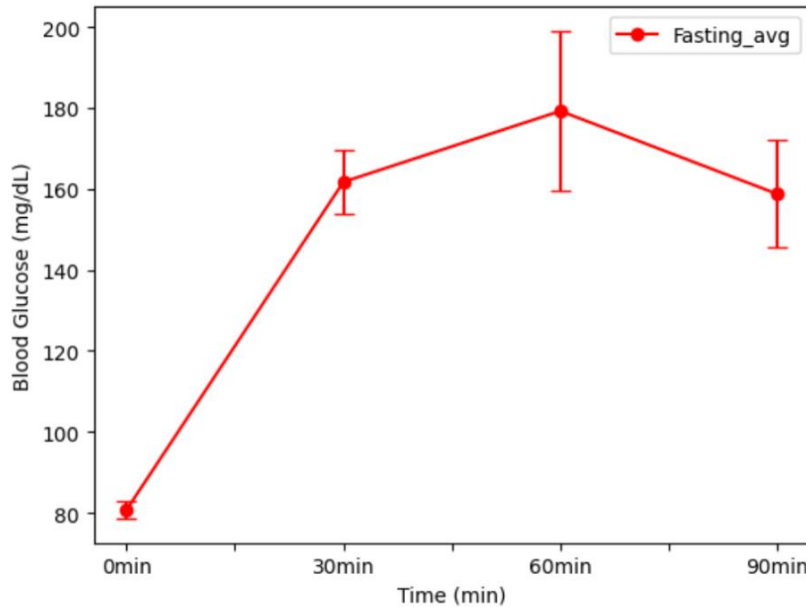
Purpose: Recognize the fundamental mechanisms underlying hormonal activity as well as the second messenger hypothesis pertaining to specific hormones. Become familiar with absorptive and postabsorptive states. Recognize how glucagon and insulin affect blood glucose regulation. Recognize the distinctions between NIDDM and IDDM. Recognize what hyperglycemia and hypoglycemia mean. Recognize what polyuria, polydipsia, and glucosuria mean. Recognize what acidotic means. Recognize the causes of insulin shock.

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 graphs in terms of absorptive and postabsorptive 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 had the option to see the glucose and returning down to an hour and a half. We had the option to perceive how during fasting there first blood draw was at 80%-140%mg and subsequent to having glucose blood glucose ascends to 150%-170%mg. This was solely after 30 minutes of drinking glucose. Also, after full an hour blood glucose arrived at the most elevated top to 160%-200%mg and after some time it returned normal.

Conclusion: All in all we had the option to perceive how rapidly your glucose could ascend subsequent to drinking a sweet beverage and how lengthy it is before it returns down. Additionally, I was able to comprehend what causes insulin shock. I also learned that insulin resistance, also known as hyperglycemia in NIDDM, is the loss of normal insulin-responsive tissue activity. In IDDM, hyperglycemia emerges from lacking creation of insulin from pancreatic cell because of autoimmunity. I also learned that an acidosis is a condition in which the body's tissues or fluids are too acidic.