



Both Fasting Blood Glucose (FBG) and A1c Drop in Less than One Month after Starting Lysulin Supplementation

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Citation: Burd JF. Both fasting blood glucose (FBG) and A1C drop in less than one month after starting lysulin supplementation (2019) J Obesity and Diabetes 3: 33-35.

Received: Oct 11, 2019

Accepted: Oct 23, 2019

Published: Oct 29, 2019

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Abstract

When a diabetes treatment is changed, patients are eager to see their FBG and A1c changes as a result on the new treatment. We examined these changes in 20 subjects with Type 2 diabetes for 1 week prior to starting Lysulin and then for the following 30 days. While both FBG and A1c drop in less than 1 month, the change in A1c was more rapid than the change if FBG. Possible reasons for the differences between FBG and A1c are presented.

Keywords: Lysulin, Type 2 diabetes, Glucose.

Glucose is essential in providing the human body its energy needs. Glucose relies upon the hormone, insulin, to enter our cells thereby producing the energy we need for everyday living. However, while everyone needs a certain amount of glucose for daily energy production, excessive glucose is dangerously toxic to the body (primarily as a result of protein glycation). This leads to insulin resistance, caused by the glycation of insulin and insulin receptors, thereby resulting in high concentrations of glucose in the bloodstream [1]. The therapy for type 2 diabetes starts with attempts to control glucose through diet and exercise. If this fails, oral drugs are prescribed.

If oral drugs do not work, insulin injections are used. Over 30% of people with type 2 diabetes are using insulin injections to control their blood glucose levels [2]. There is a vast literature documenting the role of nutraceuticals in the management of alterations in metabolism [3].

A new nutritional supplement, Lysulin, was recently introduced and is the only product that targets the cause on insulin resistance and diabetes. When a treatment change is made, patients are interested in how quickly they can observe a change in their FBG and A1c. This information is only available for insulin injections, where the change in FBG can be seen in one day. We examined the change in FBG and A1c in 20 subjects with Type 2 diabetes for 1 week prior to starting 3 daily servings of Lysulin and then continued testing for the following 30 days. The results for all subjects are presented in **Table 1**.

As shown in the Table 1, 70% of participants saw a benefit (14 out of 20), 20% saw no change (4 folks) and 10% may have had an increase, although slight. The average change in FBG is shown in **Figure 1**.

As seen in Figure 1, the average FBG started dropping after 14 day and had started to level off after 27 days. As shown in the Table 1,

65% of participants saw a benefit using Lysulin (13 out of 20), 25% (5 subjects) saw no change and 10% (2 subjects) may have had an increase of greater than 4 mg/dL glucose. The change in Average A1c is shown in **Figure 2**.

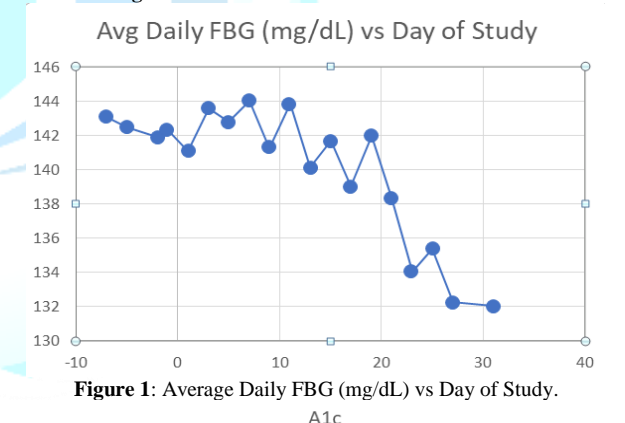


Figure 1: Average Daily FBG (mg/dL) vs Day of Study.

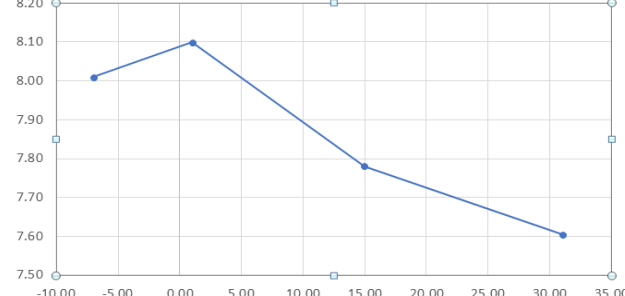


Figure 2: Average A1c (%) vs Day of Study.



Volunteer	Pre-Lysulin										Post-Lysulin																					
	Day 1		Day 3		Day 5		Day 7		Day 9		Day 11		Day 13		Day 15		Day 17		Day 19		Day 21		Day 23		Day 25		Day 27		Day 29		Day 31	
	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS	HbA1c	FBS		
1	7.3	109	111	100	100	111	100	99	99	99	108	92	7	90	95	100	100	98	92	98	90	93	93	98	92	90	90	7	91			
2	7.9	116	NA	125	106	125	106	164	164	100	96	110	7.9	110	105	106	100	102	100	96	100	102	102	96	100	NA	NA	7.5	95			
3	9	170	155	NA	164	164	164	164	164	144	174	NA	8.9	151	155	160	150	152	154	154	150	152	152	154	150	152	8.7	151				
4	8.5	131	129	120	135	145	145	145	145	130	150	142	8.2	140	138	145	130	130	132	132	132	130	130	132	NA	NA	8.4	138				
5	6.6	104	100	94	105	7	100	105	105	103	100	102	6.9	101	100	98	NA	90	92	90	92	90	93	90	92	NA	NA	7.1	110			
6	8.2	140	139	140	145	8.3	142	140	140	135	135	142	8.1	132	130	135	125	125	128	122	122	130	122	122	128	120	7.7	128				
7	7.5	110	100	91	114	7.5	100	110	110	114	124	127	103	100	113	110	109	111	103	103	103	109	103	95	90	98	6.9	95				
8	6.6	90	95	NA	105	6.6	100	95	90	90	105	NA	6.5	95	100	105	90	92	95	95	95	90	92	95	90	91	6.6	88				
9	7.9	170	160	155	NA	7.9	165	160	NA	172	156	163	7.8	160	165	170	172	166	168	168	160	166	168	160	158	7.9	160					
10	7.4	150	168	170	165	7.5	160	155	158	160	155	158	7.2	158	NA	160	150	145	148	148	NA	145	148	NA	NA	6.7	141					
11	6.9	100	90	110	105	7.1	100	102	110	118	95	NA	6.5	102	100	NA	108	105	98	95	90	105	98	95	90	6.6	94					
12	7.1	108	110	118	108	7.1	118	104	109	100	119	120	6.6	104	108	109	NA	110	115	118	118	110	115	118	110	6.8	118					
13	7.9	139	NA	137	141	8.1	140	131	148	128	150	148	8.1	131	140	138	129	140	138	125	120	140	138	125	120	7.7	125					
14	8.7	173	170	183	168	8.7	150	NA	158	160	165	170	7.7	158	150	145	150	155	160	168	168	155	160	168	160	8	160					
15	7.6	145	155	152	160	8	152	150	160	169	NA	170	8	169	160	152	150	155	160	170	160	155	160	170	160	8.1	165					
16	8.2	176	173	165	170	8.2	168	160	175	170	172	160	7.2	160	158	NA	NA	NA	NA	NA	NA	110	115	118	110	6.8	118					
17	9.2	190	180	192	182	9	172	180	191	195	185	180	8.5	180	172	171	165	165	170	165	170	165	165	170	165	160	7.9	162				
18	8.5	181	171	NA	182	9	170	NA	175	172	168	NA	8.9	185	175	172	168	160	165	172	168	160	165	172	160	8.1	161					
19	9.4	173	182	170	180	9.4	190	200	185	NA	195	170	9.4	200	190	195	180	185	180	180	180	185	180	180	NA	NA	NA	NA	NA			
20	9.8	186	176	190	170	10	190	195	184	180	185	190	9.1	195	190	185	184	180	180	180	180	180	180	180	191	190	9.2	195				
Average	8.01	143.05	142.44	141.88	142.32	8.1	141.05	143.56	142.79	144.00	141.26	143.83	7.78	141.70	139.00	141.94	138.35	134.06	135.37	132.25	132.93	134.06	135.37	132.25	132.93	7.605566	132.06					

Table 1: Change in FBG and A1c before and after Lysulin – 3 servings a day.

As seen in Figure 2, the A1c was lower at 15 days and continued to decrease at the day 31 test. The reduction in A1c is statistically significant, with p=0.0004 at day 15, p=0.0002 at day 31. As shown in the above table, 70% of participants saw a benefit using Lysulin (14 out of 20), and 20% saw no change, 4 subjects had no change (+ 0.2 %) and 10% may have had an increase, although slight. This is consistent with A1c drops seen in earlier Lysulin studies [4-6]. Interestingly, subject 20 had an A1c decrease of 9.8% to 9.2% but their FBG increased from 180 mg/dL to 187 mg/dL.

Of more importance is the observation that 70% of participants saw an improvement in their A1c. There are several possible explanations why 100% did not see an improvement in their A1c. The most obvious would be a lack of compliance in taking the recommended 3 servings a day of Lysulin or a change in diet, exercise or lifestyle which could also effect glucose levels. Another possibility is that a certain percentage of the population does not effectively move the 3 primary ingredients in Lysulin from their gut into the bloodstream, due to microbiome population in the gut or other reasons that are ruled by genetics [7].

Another important finding was that A1c dropped more quickly than did the FBG. This implies that the daily average glucose dropped faster than the FBG. This finding has been reported by others—see <http://www.ngsp.org/A1cAG.asp> which concluded that post-lunch and bedtime glucose showed relationships to HbA1c that were the most similar to 7 point glucose daily testing. Fasting glucose correlated less well and results showed that with increasing HbA1c, fasting glucose progressively underestimated the HbA1c level.

Summary and Conclusion

This study compared the change in FBG and A1c following a change in treatment. The results are that FBG changes can be observed in 2 to 3 weeks and changes in A1c can be observed in as little as 2 weeks. This substantiates both the use of Lysulin for type 2 diabetes and the use of A1c to measure the effectiveness of changes in diabetes therapy [8].

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