



Effects of gender on IGF1 changes after initial basal insulin analog therapy in the type 2 diabetics.



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Objectives

- Serum IGF1 levels declined particularly with hyperglycemia in diabetic patients and lower IGF1 levels has been suggested to be associated with the development of diabetes.
- IGF1 levels appear to increase with the improvement in glycemic control in diabetic patients but do not reach normal levels. Also, it affected by gender;
- In this study we aimed to investigate effects of gender on IGF1 changes with basal insulin analogs.

Methods

- The serum total IGF1 levels of the 62 insulin-native type 2 diabetic patients were studied before and after 12 weeks of the started treatment with basal insulin analogs.
- The patients were between 35 and 65 years old, followed-up as a type 2 diabetes at least one year and HbA1c levels were between 7.5 and 10%.
- 42 patients using insulin detemir and 20 patients on insulin glargine were evaluated.

Results

- Mean age of patients were 57.0 ± 6.4 in the males (n=27) and 55.2 ± 7.1 in the females (n=35).
- Changes in the IGF1 values are calculated as 0.5% decrease in the males and 2.1% increase in the females.
- Means IGF1 levels were 111.7 ± 38.4 in the males and 111.5 ± 47.5 before insulin therapy and were 107.6 ± 35.9 in the males and 108.8 ± 47.8 in the females at the end of the study.
- IGF1 change means were -4.1 and -2.6 in the males and females respectively.

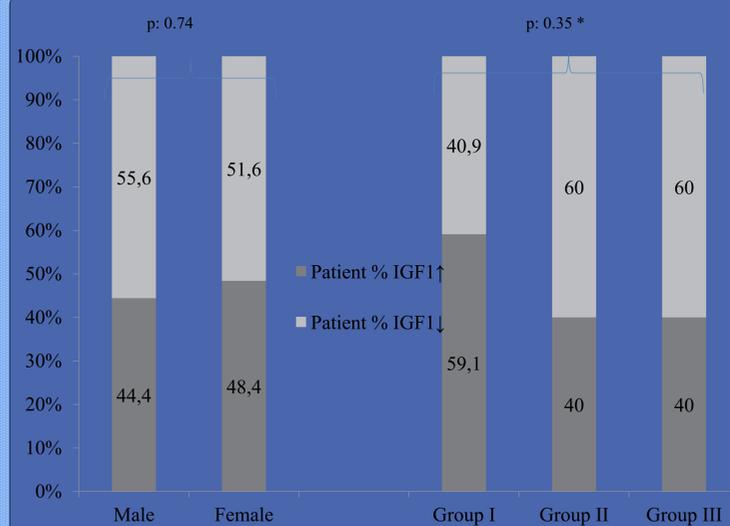


Figure 1: IGF 1 level with falling and rising patients rates from baseline to after insulin, by gender and groups. (*p: 0.21; between group I and group III).

Gender		IGF1a	IGF1b	IGF1change	IGF1change%	A1c1	A1c2	A1cF	Basal Insulin	Basal C peptide	Height	BMI	Age	Diseased uration
Male	Mean	111.778	107.611	-4.167	-.592	9.704	7.893	-1.8111	17.136	3.708	170.741	27.1986	57.00	7.04
	N	27	27	27	27	27	27	27	25	25	27	27	27	27
	Std. Deviation	38.4177	35.9528	26.2291	21.6374	1.3710	1.1559	1.39899	15.1968	2.4812	5.4179	3.60210	6.457	2.993
Female	Mean	111.509	108.843	-2.666	2.162	9.500	8.300	-1.2118	14.376	3.416	158.147	31.6678	55.23	6.69
	N	35	35	35	35	35	34	34	33	33	34	34	35	35
	Std. Deviation	47.4937	47.8506	35.7865	31.6459	1.4471	1.1179	1.46944	10.4747	2.1243	6.7874	4.31181	7.183	2.665
Total	Mean	111.626	108.306	-3.319	.963	9.589	8.120	-1.4770	15.566	3.542	163.721	29.6897	56.00	6.84
	N	62	62	62	62	62	61	61	58	58	61	61	62	62
	Std. Deviation	43.4321	42.7498	31.7429	27.5615	1.4067	1.1437	1.45801	12.6782	2.2687	8.8226	4.56705	6.878	2.795

Conclusions

- In our study, it was observed that, while IGF1 levels remained unchanged or increased in the detemir groups, levels dropped at the level close to significance in the glargine group.
- The changes in the IGF1 level were found to be more evident in the males.
- The change differences between the male and female patients could be explained with the fact that BMI averages were different and that the daily variability in the serum IGF1 level was higher depending on the cyclic estrogen fluctuation in the females.

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