Results

Table 1:Demography of studied groups

		$\bar{x} \pm SD$
sex	Male: no (%)	52 (86.7%)
	female	8 (13.3%)
age (years)		39.72±8.40
serum creatinin		1.04±.33
serum albumin		4.3±.4
alkaline phosphatase		90±40
AST		64±39
ALT		78±52
Total bilirubin		0.93±0.33
WBCs (x1000 cells/ml)		5.7±1.5
Hb %		14.1±1.6
platelets (x1000 cells/ml)		184±44
Prothrombin %		84.0±16.6
TSH (uIU/ml)		1.821±1.218
alpha-feto-protein		6.75±4.72
fasting blood sugar (mg/dl)		123.30±42.31
fasting insulin level		15.71±21.47
PCR before treatment		1173087.30±2493164.85

Table 2:-Comparison between 3 groups regarding age ,sex and laboratory data.

		group						ANOVA test	p-value
		Normoglycemic Count=20		Impaired fasting glucose patients Count=20		Diabetic patients Count=20			
		$\bar{x}$	**SD**	$\bar{x}$	**SD**	$\bar{x}$	**SD**		
age (years)		38.6	9.6	39.9	8.08	40.65	7.69	.297	>.05
sex	Male: No (%)	19	95.0%	15	75.0%	18	90.0%	***3.75#***	***>.05***
	Female No (%)	1	5.0%	5	25.0%	2	10.0%		
serum creatinine		1.09	.38	1.01	.34	1.02	.28	.492#	**>.05**
serum albumin		4.4	.6	4.2	.4	4.4	.3	1.135	**>.05**
alkaline phosphatase		100	48	93	40	77	28	3.228#	**>.05**
AST		60	36	78	47	53	28	4.379#	**>.05**
ALT		69	39	104	70	60	29	5.696#	**>.05**
Total bilirubin		1	.30	.98	.38	.77	.27	3.826	**<.05***
WBCs (x1000 cells/ml)		5.9	1.6	5.4	1.6	5.9	1.3	.614	**>.05**
Hb %		13.8	1.3	14.5	1.9	14.1	1.7	.887	**>.05**
platelets (x1000 cells/ml)		184	43	185	44	184	48	.001	**>.05**
Prothrombin %		81.1	24.3	83.9	10.3	86.9	11.7	.924#	**>.05**
TSH (uIU/ml)		1.888	1.469	1.627	.910	1.949	1.247	.851#	**>.05**
alpha-feto-protein		7.11	4.32	7.34	5.94	5.80	3.71	1.101#	**>.05**

From this comparison, results are as fallow:-

Mean age in diabetic patients > mean age in 2 other groups

Impaired fasting glucose group has higher percentage of female gender than two other groups.

Diabetic group has lower total bilirubin level than other two groups, however, they are all results within normal range. No other significant difference between studied groups regarding the above laboratory data. Non of the above results is significant.

Table3:-Comparison between 3 groups regarding fasting blood sugar level and PCR before treatment:-

	group						ANOVA test	p-value
	Normoglycemic Count=20		Impaired fasting glucose patients Count=20		Diabetic patients Count=20			
	$\vec{x}$	SD	$\vec{x}$	SD	$\vec{x}$	SD		
fasting blood sugar (mg/dl)	81.75	8.72	116.65	3.91	171.50	34.04	98.247	**<.001****
PCR before treatment	336939.35	425203.26	1412220.60	3564680.78	1770101.95	2289726.53	4.891#	**>.05**

This table shows a comparison between 3 groups regarding fasting blood sugar and PCR before treatment:- these results show that Diabetic group has a significant higher levels of fasting blood sugar.

Table4:-Comparison between 3 groups regarding fasting insulin level and PCR before treatment:-

	group						ANOVA test	p-value
	Normoglycemic Count=20		Impaired fasting glucose patients Count=20		Diabetic patients Count=20			
	$\vec{x}$	SD	$\vec{x}$	SD	$\vec{x}$	SD		
fasting insulin level	11.36	14.66	15.82	27.59	19.95	20.41	1.414#	**>.05**
PCR before treatment	336939.35	425203.26	1412220.60	3564680.78	1770101.95	2289726.53	4.891#	**>.05**

This table shows a comparison between 3 groups regarding fasting insulin level and PCR before treatment :- these results show that there is no a significant importance between 3groups.

Table5:-Comparison between 3 groups regarding insulin resistance and PCR before treatment:-

	group						ANOVA test	p-value
	Normoglycemic Count=20		Impaired fasting glucose patients Count=20		Diabetic patients Count=20			
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD		
Insulin resistance	2.4	3.3	4.5	7.8	7.9	7.6	7.88#	**<.05***
PCR before treatment	336939.35	425203.26	1412220.60	3564680.78	1770101.95	2289726.53	4.891#	**>.05**

This table shows a comparison between 3 groups regarding insulin resistance level and PCR before treatment :- these results show that Diabetic group has significant higher levels of insulin resistance.

Figure1 :- comparison between 3 group regarding mean fasting glucose level shows that: diabetic group has a significant higher level than other 2 groups (normo-glycemic and impaired fasting glucose level groups).

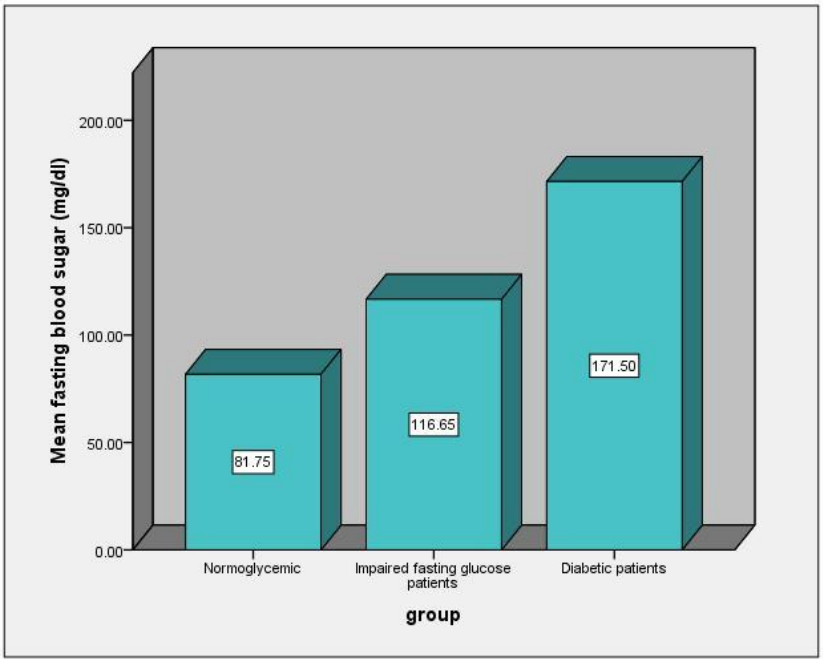

Figure 2:- comparison between the 3 groups regarding mean insulin resistance.

From this figure results show that: diabetic group has a significant higher level of mean insulin resistance than other 2 groups.

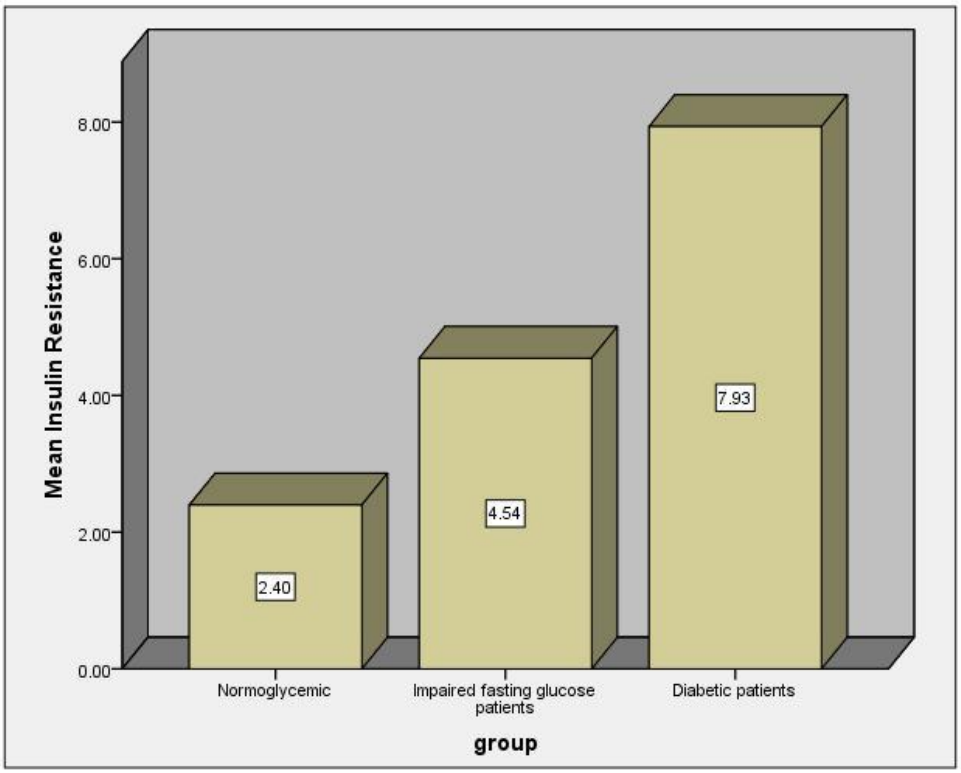

Table 6:-Comparison between PCR positive and PCR negative cases after treatment regarding age and sex

		Group				Test value	p-value
		Negative (responders) n= 57		Positive (non-responders) n=3			
		$\bar{x}$	SD	$\bar{x}$	SD		
age (years)		39.4	8.6	45.0	6.00	1.2	**>.05**
sex	Male	49	86.0%	3	100.0%	.034#	**>.05**
	Female	8	14.0%	0	.0%		

This table shows a comparison – PCR-ve pts and PCR +ve pts after treatment regarding age and sex.
From this comparison, the results are insignificant between the two groups regarding age and sex.

Table7:-Comparison between responders and non responders after treatment regarding laboratory data

	PCR after treatment				t-Test value	p-value
	Negative (responders) n= 57		Positive (non-responders) n=3			
	$\bar{x}$	SD	$\bar{x}$	SD		
serum creatinin	1.05	.34	.90	.10	.731	**>.05**
serum albumin	4.3	.5	4.2	.4	.537	**>.05**
alkaline phosphatase	92	40	47	10	-2.578#	**>.05**
AST	65	39	36	21	-1.3743	**>.05**
ALT	79	53	45	18	-1.374#	**>.05**
Total bilirubin	.93	.34	.95	.19	-.091-	**>.05**
WBCs (x1000 cells/ml)	5.8	1.5	4.7	.4	1.240	**>.05**
Hb %	14.1	1.7	14.0	.8	.113	**>.05**
platelets (x1000 cells/ml)	185	45	168	11	.637	**>.05**
Prothrombin %	83.9	17.0	85.7	2.1	-.323#	**>.05**
TSH (uIU/ml)	1.828	1.244	1.687	.631	-.085#	**>.05**
alpha-feto-protein	6.98	4.72	2.40	1.93	.06#	**>.05**

This table shows a comparison between two groups regarding laboratory data.
No significance difference between responders and non responders regarding above laboratory data.

Table 8 :- Comparison between responders and non responders after treatment regarding fasting blood sugar, fasting insulin level and PCR before treatment:-

	PCR after treatment				Mann-whitney test	p-value	Significance
	Negative (responders) n= 57		Positive (non-responders) n=3				
	$\bar{x}$	SD	$\bar{x}$	SD			
fasting blood sugar (mg/dl)	122.12	42.46	145.67	39.32	-1.103#	***>.05***	**N.S**
fasting insulin level	12.78	14.76	71.36	51.10	-2.494#	***<.05****	**significant**
Insulin resistance	4.03	5.18	22.64	12.28	-2.63	***<.001****	**H.S.**
PCR before treatment	1197684.88	2554092.31	705733.33	607016.32	-.187#	***>.05***	**N.S.**

- N.S non-significant
- H.S. highly significant

This table shows no significant relation between non response to treatment and fasting blood sugar, but it shows a significant relation between non response and fasting blood insulin and shows a highly significant relation between non response and insulin resistance.

Figure3:- comparison between the responders and non responders after treatment regarding mean insulin resistance.

From this figure results show that: non responders have a significant higher level of mean insulin resistance than responders.

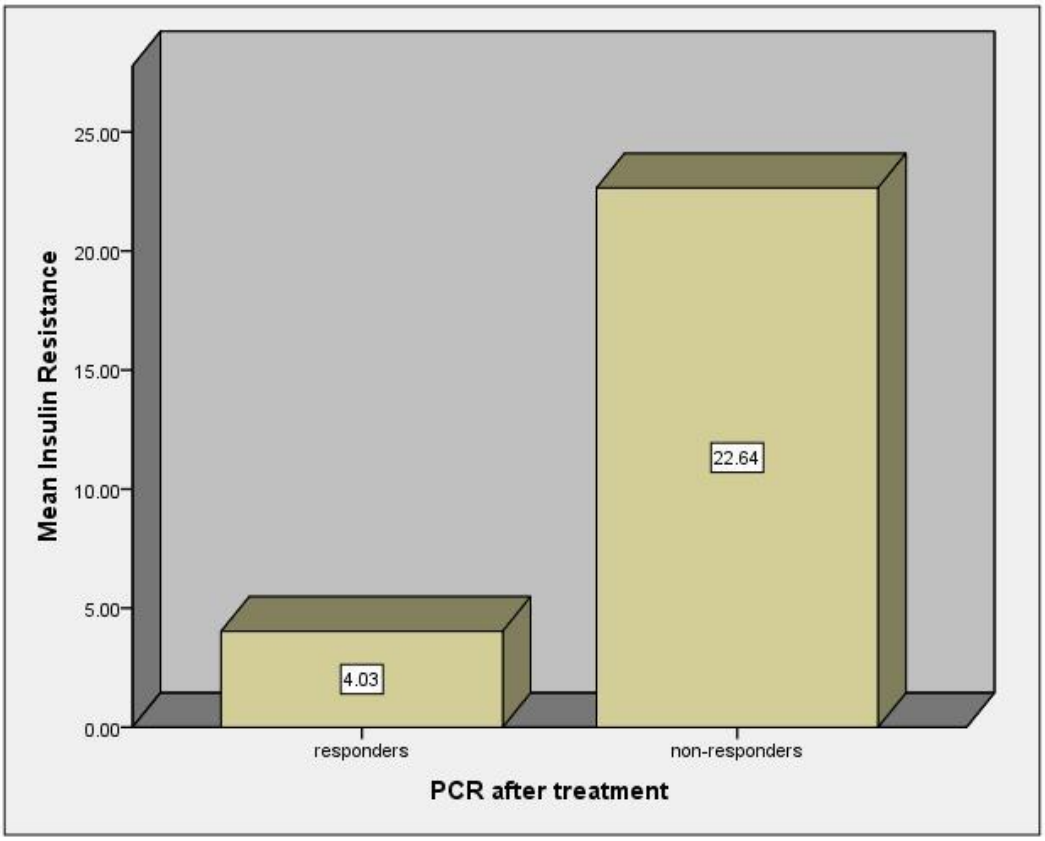

Figure4:- comparison between the responders and non responders after treatment regarding mean fasting insulin level.

From this figure results show that: non responders patients after treatment have a significant higher level of mean fasting insulin level than responders.