RESULTS

The present prospective controlled study was carried out during the period 2004 till 2007. The study comprised 90 pregnant women among those attending antenatal care clinic and admitted to Obstetric Department, Mit Ghamr Central Hospital and Benha University Hospital.

The cases comprised 3 groups :

Group I: consists of 30 healthy pregnant women with uncomplicated pregnancy.

Group II consists of 30 pregnant women with mild preeclampsia.

Group III consists of 30 pregnant women with severe preeclampsia.

Results are tabulated, statistically analysed and shown in the following tables

Table(1) There is no significant difference between study groups as regards age, BMI, gestational age (P>0.05). Systolic and diastolic blood pressure is significantly elevated (P<0.001) in preeclamptic groups compared with control cases & in severe PE groups compared with mild PE group.

TABLE(1): CLINICO-EPIDEMIOLOGICAL DATA OF STUDY CASES

Group / Parameter	Control GROUP	Mild PE GROUP	Severe PE GROUP	P
Age(years)				P1>0.05
mean ±SD	29.9±5.5	28,8±5.5	29.5±4.0	P2>0.05
Range	21-41	21-42	22-42	P3>0.05
BMI(kg/m2)				P1>0.05
mean ±SD	24.3±3.2	24.5±4.2	25.6±3.1	P2>0.05
Range	36-40	20-30	20-29	P3>0.05
Gest.age (weeks)				P1>0.05
mean ±SD	38.8±1.1	36.9±1.1	36.3±1.5	P2>0.05
Range	36-40	35-39	34-39	P3>0.05
SystolicBP (mmHg)				P1<0.001
mean ± SD	104±10	152±7.0	167±6.6	P2<0.001
Range	90-120	140-160	160-180	P3<0.001
DiastolicBP (mmHg)				P1<0.001
mean ± SD	69±5.9	91.5±3.0	109±6.7	P2<0.001
Range	60-80	90-100	100-120	P3<0.001

P>0.05= non significant **P<0.001**= highly significant

Table (2) shows :

Significant elevation of serum ***leptin*** level in severe and mild PE groups compared to control group($p<0.01$) . No significant change is detected between mild and severe PE groups.($p>0.05$).

Significant elevation of ***total testosterone*** level in severe PE groups compared to control group($p<0.01$). No significant change is detected between mild and control groups. And between mild and severe PE groups ($p>0.05$).

Significant elevation of ***free testosterone*** level in severe PE groups compared to control group($p<0.05$). No statistically significant change is detected between mild and severe PE groups and between mild and control groups ($p>0.05$).

No statistically significant change of serum ***DHEAS*** level between control and PE groups ($p>0.05$) .

TABLE(2): MATERNAL PLASMA LEPTIN, TESTOSTERONE , FREE TESTOSTERONE, AND DHEAS AMONG STUDY CASES

	Control GROUP	**Mild PE GROUP**	**Severe PE GROUP**	**P**
LEPTIN (ng/ml)				**P_1**<0.01
mean ± SD	51.4±35	77.9±31	79.9±39.6	**P_2**<0.01
Range	2.5-123.57	15.5-119.1	10.76-119.8	**P_3**>0.05
Test. (ng/ml**)**				**P_1**>0.05
mean ± SD	2.13±1.5	2.89±1.1	4.1±4.1	**P_2**<0.01
Range	0.327-6.3	1.027-5.289	0.877-15.96	**P_3**>0.05
FreeTest. (pg/ml)				P_1>0.05
mean ± SD	50.2±13.8	53.9±17.4	59.8±10.5	P_2<0.01
Range	7.457- 77.618	15.7-89.3	38.316-1.463	P_3>0.05
DHEAS (ng/ml)				**P_1**>0.05
mean ± SD	2626.9±1013	2871.4±607.2	2440.2±857.7	**P_2**>0.05
Range	426.76-3974.41	1551.333708.28	608.2-368.84	**P_3**>0.05

P1 comparison of control VS Mild

P2 comparison of control VS Severe

P3 comparison of Mild VS Severe

Table (3) shows that there is no significant correlation between leptin and maternal age, gestational age and BMI in all groups. Significant positive correlation is reported between leptin and systolic and diastolic blood pressure ($P<0.05$) in cases with severe preeclampsia.

TABLE(3): CORRELATION BETWEEN SERUM LEPTIN AND CLINICO-EPIDEMIOLOGICAL DATA OF STUDY CASES.

	Control GROUP		Mild PE GROUP		Severe PE GROUP	
	r	**p**	**r**	**p**	**r**	**p**
Age (years)	0.19	>0.05	0.17	>0.05	0.1	>0.05
Gest. Age (weeks)	0.14	>0.05	0.15	>0.05	0.11	>0.05
BMI (kg/m2)	0.11	>0.05	0.13	>0.05	0.12	>0.05
Systolic Bp (mmHg)	0.23	>0.05	0.25	>0.05	0.34	<0.05*
Diastolic Bp (mmHg)	0.19	>0.05	o.15	>0.05	0.35	<0.05*

* **Significant change**

Table (4) shows that there is no significant correlation between total testosterone and maternal age, gestational age and BMI in all groups . Significant positive correlation is reported between systolic and diastolic blood pressure($P<0.05$)and total testosterone in cases with severe preeclampsia.

TABLE(4): CORRELATION BETWEEN TOTAL TESTOSTERONE AND CLINICO-EPIDEMIOLOGICAL DATA OF STUDY CASES.

	CONTROL GROUP		MILD PE GROUP		SEVERE PE GROUP	
	r	**p**	**r**	**p**	**r**	**p**
Age (years)	0.21	>0.05	0.34	>0.05	- 0.07	>0.05
Gest.age (weeks)	0.1	>0.05	0.13	>0.05	0.12	>0.05
BMI (kg/m2)	0.11	>0.05	0.13	>0.05	0.12	>0.05
SystolicBP (mmHg)	- 0.19	>0.05	0.3	>0.05	0.56	<0.001*
DiastolicBP (mmHg)	- 0.17	>0.05	0.08	>0.05	0.45	<0.05

* **Highly significant**

Table (5) shows that there is no significant correlation between ***free testosterone*** and maternal age, gestational age and BMI in all groups . Significant positive correlation is reported between ***free testosterone*** and systolic and diastolic blood pressure($P<0.05$) in cases with severe preeclampsia.

TABLE(5): CORRELATION BETWEEN FREE TESTOSTERONE AND CLINICO-EPIDEMIOLOGICAL DATA OF STUDY CASES.

	Control GROUP		MILD PE GROUP		SEVERE PE GROUP	
	r	**p**	**r**	**p**	**r**	**p**
Age (years)	- 0.1	>0.05	0.27	>0.05	- 0.09	>0.05
Gest.age (weeks)	0.09	>0.05	0.11	>0.05	- 0.3	>0.05
BMI (kg/m2)	0.11	>0.05	0.13	>0.05	0.12	>0.05
SystolicBP (mmHg)	- 0.27	>0.05	0.19	>0.05	0.47	<0.05
DiastolicBP (mmHg)	- 0.13	>0.05	0.2	>0.05	0.42	<0.05

Table (6) shows that there is no significant correlation between DHEA-S level and clinico-epidemiological data of study cases (P>0.05).

TABLE(6): CORRELATION BETWEEN DHEAS LEVEL AND CLINICO-EPIDEMIOLOGICAL DATA OF STUDY CASES.

	Control GROUP		Mild PE GROUP		Severe PE GROUP	
	r	**p**	**r**	**p**	**r**	**p**
Age (years)	- 0.1	>0.05	0.2	>0.05	0.3	>0.05
Gest.age (weeks)	- 013	>0.05	0.18	>0.05	0.17	>0.05
BMI (kg/m2)	0.11	>0.05	0.13	>0.05	0.12	>0.05
SystolicBP (mmHg)	0.27	>0.05	0.43	>0.05	0 .22	>0.05
DiastolicBP (mmHg)	0.25	>0.05	0.45	>0.05	0.2	>0.05

Table(7) shows that there is negative significant correlation between ***Birth Weight*** and systolic and diastolic blood pressure in severe preeclamptic group($P<0.05$) but no significant correlation between ***Birth Weight*** and clinical parameters of mild preeclamptic and control groups ($P>0.05$).

TABLE(7): CORRELATION BETWEEN BIRTH WEIGHT AND CLINICO-EPIDEMIOLOGICAL DATA OF STUDY CASES.

	Control GROUP		Mild PE GROUP		Severe PE GROUP	
	r	**p**	**r**	**p**	**r**	**p**
Age (years)	0.24	>0.05	0.23	>0.05	- 0.3	>0.05
Gest. Age (weeks)	0.19	>0.05	0.11	>0.05	0.21	>0.05
BMI (kg/m2**)**	0.11	>0.05	0.13	>0.05	0.12	>0.05
SystolicBp (mmHg)	- 0.34	>0.05	- 0.27	>0.05	- 0.46	<0.05
DiastolicBp (mmHg)	- 0.31	>0.05	- 0.19	>0.05	- 0.45	<0.05

Table (8) shows no statistically significant difference between all groups as regards gestational age (P>0.05).There is highly significant difference between control group compared to mild preeclamptic and severe preeclamptic groups as regards Apgar score 1 minutes, Apgar score 5 minutes (P< .001). But there is no significant difference between control and preeclamptic groups as regards admission to neonatal intensive care unit (P>0.05).

Table(8) shows that there is significant difference in birth weight between severe preeclamptic and mild preeclamptic groups (**P**<0.01**)** compared to control group but no significant difference between severe preeclamptic and mild preeclamptic groups **(P_3** >0.05).

TABLE (8): FETAL OUTCOME IN STUDY CASES

	Control GROUP	**Mild PE GROUP**	**Severe PE GROUP**	**P**
Gest. Age (weeks)	38.8±1.1 36-40	36.9±1.1 35-39	36.3±1.5 34-39	P1< 0.001* P2< 0.001* P3>0.05
Apgar Score 1 min.	8.6±1 7-10	6.8±0.6 6-8	6.3±1.0 5-8	P1< 0.001* P2< 0.001* P3< 0.001*
Apgar Score 5 min.	9.8±0.3 9-10	9.1±0.8 8-10	8.4±0.9 7-10	P1< 0.001* P2< 0.001* P3< 0.001*
B. weight (KG) mean ± SD Range	 2.9±0.3 2-3.5	 2.6±0.2 2.3-3	 2.5±0.2 2-2.8	**P_1**<0.01 **P_2**<0.01 **P_3** >0.05
ICU Adm. No. %	 0 0.0	 3 10.0	 4 16.0	P1>0.05 P2>0.05 P3>0.05

P1 : Mild PE compared to control cases
P2 : Severe PE compared to control cases
P3 : Severe PE compared to mild PE
P<0.05 significant change
P<0.001 highly significant change

Table (9) There is significant positive correlation between leptin and serum total testosterone levels in PE cases compared to control cases ($P<0.05$) but no significant correlation between maternal serum leptin and maternal free testosterone and DHEAS levels in PE and control cases ($P>0.05$).

TABLE (9) :CORRELATION BETWEEN SERUM LEPTIN AND SERUM ANDROGENS.

	Control GROUP		Mild PE GROUP		Severe PE GROUP	
	r	**p**	**r**	**p**	**r**	**p**
Total test. (ng/ml)	0.025	>0.05	0.41	<0.05	o.55	<0.05
Free test. (Pg/ml)	0.09	>0.05	0.12	>0.05	0.2	>0.05
DHEAS (ng/ml)	0.13	>0.05	0.8	>0.05	0.15	>0.05

Table (10) shows negative significant correlaton between birth weight and serum leptin and total testosterone in severe preeclamptic group ($p<0.05$).

TABLE (10): CORRELATION BETWEEN BIRTH WEIGHT AND LABORATORY DATA OF STUDY CASES.

	CONTROL GROUP		Mild PE N=30		SeverePE N=30	
	r	**p**	**r**	**p**	**r**	**p**
Leptin (ng/ml)	0.13	>0.05	-0.2	>0.05	-0.49	<0.05
Total test. (ng/ml)	0.08	>0.05	-0.3	>0.05	-0.51	<0.05
FreeTest. (pg/ml)	0.12	>0.05	-0.09	>0.05	0.21	>0.05
DHEAS (ng/ml)	0.07	>0.05	-0.18	>0.05	0,19	>0.05