RESULTS

A total of 400 normotensive women in their first pregnancy attending antenatal clinics at Sohag Teaching Hospitals were selected for this study. All women fulfilled the criteria of attending at 16^{th} , 20^{th}, and 24^{th} weeks of gestation. Follow up was continued as regular antenatal care for all cases untill delivery. Women who developed preeclampsia were classified as group I and those who did not develop preeclampsia as group II. Clinical and laboratory records of women who developed preeclampsia (group I) were compared with those who remained normotensives (group II).

Figure (1) shows the relative incidence of preeclampsia among 400 women (52 out of 400 or 13%) showed preeclampsia.

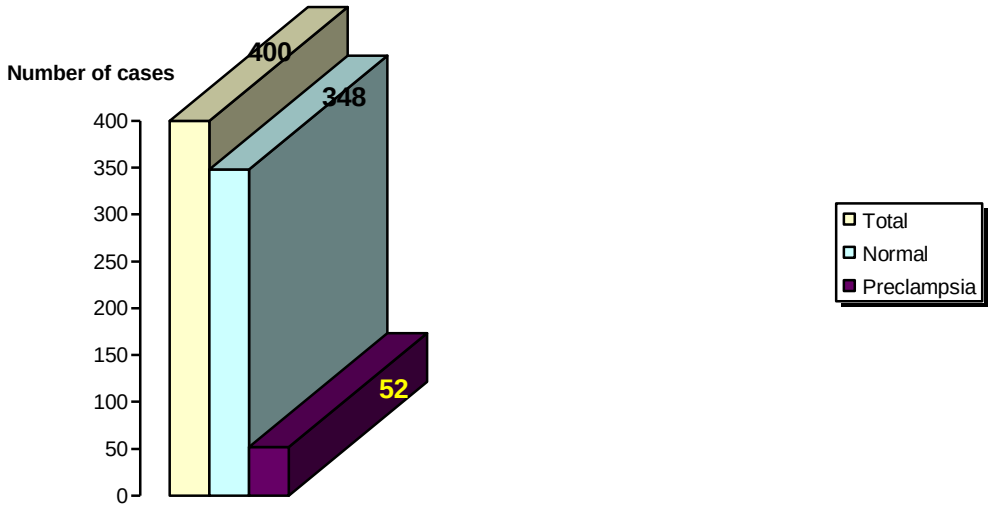

Figure 1. Relative incidence of preeclampsia.

Table (1) compares between the clinical characteristics of the cases who developed preeclampsia (n=52) and those who did not develop preeclampsia (n=348). Data are presented as mean ± standard deviation. There were no statistically significant differences in the mean maternal age, mean maternal weight or mean arterial blood pressure between women of both groups at 16 weeks gestation on starting the study (p>0.05).

Table 1.Characteristics of women in both groups.

	Preeclamptic N= 52	Non preeclamptic N= 348	Significance
Maternal age	23.04 ± 8	22.1 ± 5.2	NS
Maternal weight	72.14 ± 10.6	71.5 ± 7.7	NS
Mean arterial blood pressure	77 ± 5	76 ± 3	NS

NS =non significant(p>0.05).

The mean arterial blood pressure was not significantly different in both groups as at 16 and 20 weeks geatations. However, there was a statistically significant difference in the mean arterial blood pressure between both groups with higher values being detected among women of group (I), i.e. 84 versus 78 (p<0.05). Moreover, this difference was highly significantly at delivery time (108 versus 79) (table 2 and figure 2).

Table 2. Results of the mean arterial blood pressure between women of both groups at 16, 20 and 24 weeks gestations.

	Preeclamptic N = 52	Non preeclamptic N = 348	Significance
	Mean ± SD	Mean ± SD	
16 Weeks	77 ± 5	76 ± 3	NS
20 Weeks	78±4	77±	NS
24 Weeks	85 ± 6	78 ± 8	S
At delivery	108±7	79±6	HS

S = significant (p<0.05), NS =non significant(p>0.05), HS =highly significant (p<0.001).

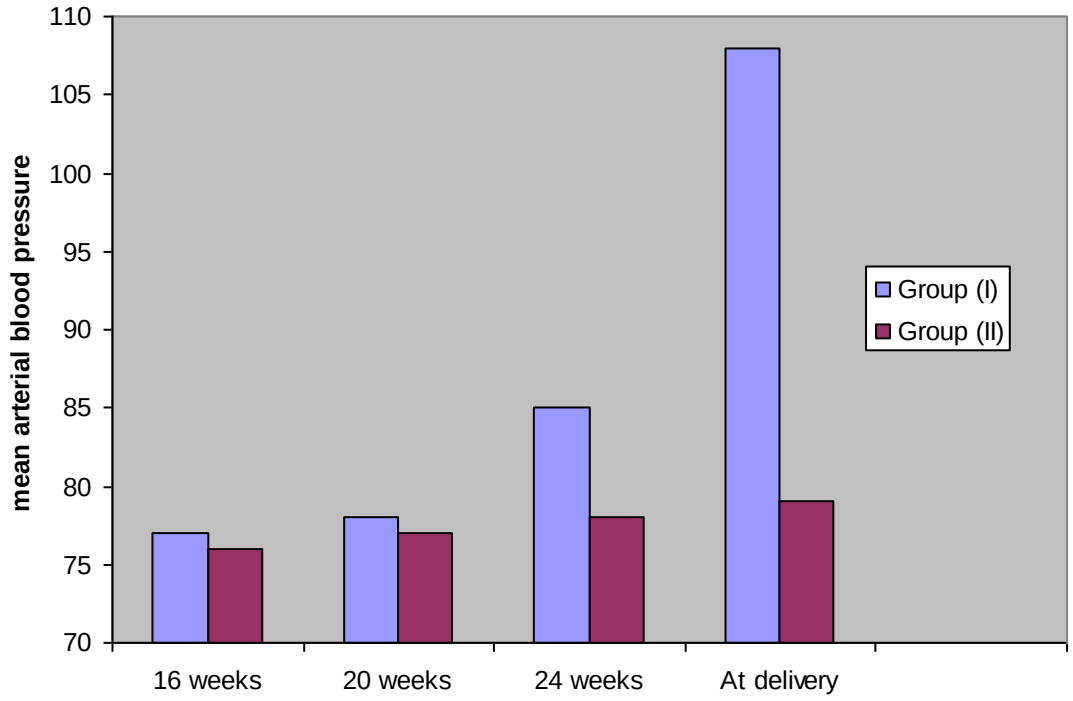

Figure 2. Mean arterial blood pressure between women of both groups at 16, 20 and 24 weeks gestations.

Results of the roll over, cold pressor and isometric exercise tests of the studied cases at 16, 20 and 24 weeks are shown in tables 3-5. at 16 weeks, there were more cases showing positive results for the three tests. However, only the cold pressor test was significantly more positive among women of group (I). At 20 weeks, there were more cases showing positive results for the three tests with both the roll over and the cold pressor tests were significantly more positive among women of group (I). At 24 weeks, more cases were significantly positive for the three tests among women of group (I).

Table 3. Results of the roll over, cold pressor and isometric exercise tests of the studied cases at 16 weeks. Data are presented as number and (%).

	Preeclamptic N= 52	Non preeclamptic N= 348	Significance
Positive roll over test	6(11.5%)	28 (8.0%)	NS
Positive cold pressor test	7 (13.5%)	27 (7.8%)	S
Positive isometric exercise test	6 (11.5%)	26 (7.5%)	NS

S = significant (p<0.05), NS =non significant(p>0.05), HS =highly significant (p<0.001).

Table 4. Results of the roll over, cold pressor and isometric exercise tests of the studied cases at 20 weeks. Data are presented as number and (%).

	Preeclamptic N= 52	Non preeclamptic N= 348	Significance
Positive roll over test	8(15.3%)	30 (8.6%)	S
Positive cold pressor test	9 (17.3%)	28 (8.0%)	S
Positive isometric exercise test	6 (11.5%)	27 (7.8%)	NS

S = significant (p<0.05), NS =non significant(p>0.05), HS =highly significant (p<0.001).

Table 5. Results of the roll over, cold pressor and isometric exercise tests of the studied cases at 24 weeks. Data are presented as number and (%).

	Preeclamptic N= 52	Non preeclamptic N= 348	Significance
Positive roll over test	14(26.9%)	44 (12.6%)	S
Positive cold pressor test	13 (25%)	39 (11.2%)	S
Positive isometric exercise test	9 (17.3%)	41 (11.7%)	S

S = significant (p<0.05), NS =non significant(p>0.05), HS =highly significant (p<0.001).

The relative incidence of positive results of the roll over test, cold pressor, and isometric exercise tests at 16, 20 and 24 weeks among women of group I (preeclamptic) are compared in figure 3.

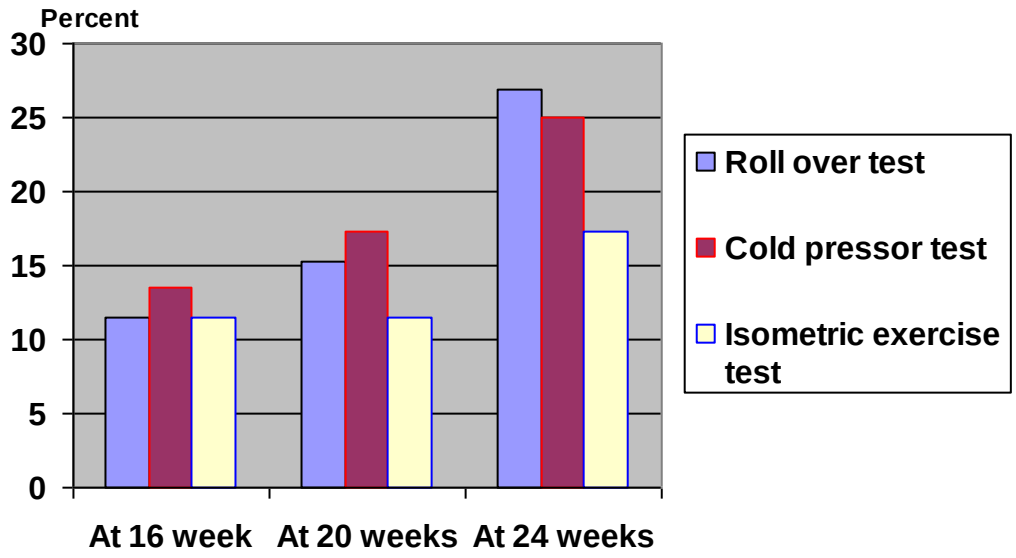

Figure 3. Percent of positive results of rol over, cold pressor and isometric exercise test among women of group I (preeclampsia)

The relative incidence of positive results of the roll over test, cold pressor, and isometric exercise tests at 16, 20 and 24 weeks among women of group II (normotensives) are compared in figure 5.

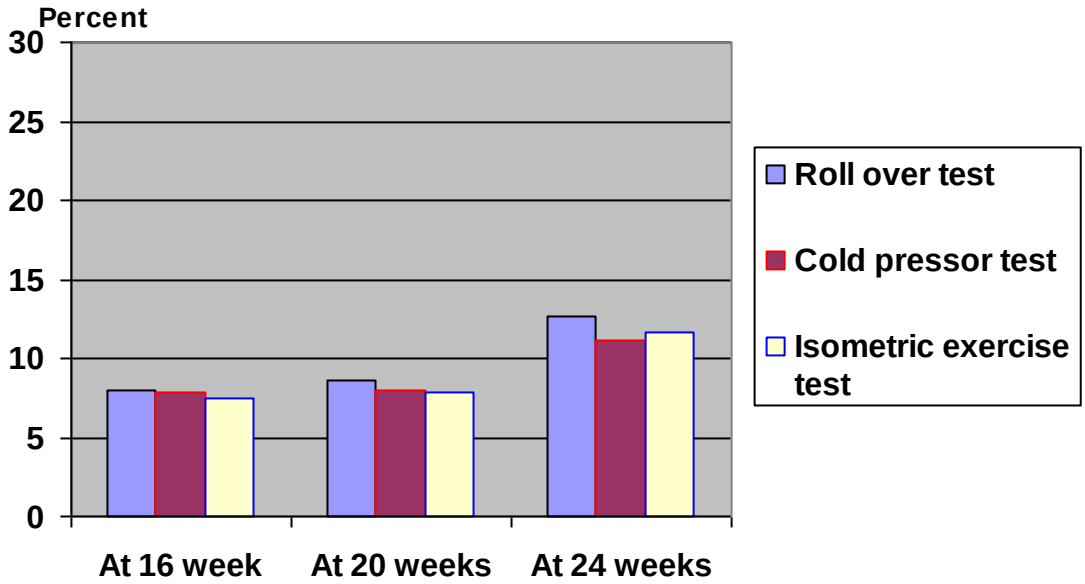

Figure 4. Percent of positive results of rol over, cold pressor and isometric exercise test among women of group II (non-preeclampsia)

Table 6. Indices of efficiency of screening tests for preeclampsia at 16 weeks.

	GroupI (n=52) preeclampsia	**Group II (n=348) Non preeclamptic**	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Accuracy**
Roll over test	6 (11.5 %)	28(8.0 %)	11.5 %	91.1 %	17.6 %	87 %	81.5 %
Cold pressor test	7 (13.5 %)	27 (7.8 %)	13.5 %	92.2 %	20.6 %	87.7 %	82.0 %
Isometric exercise test	6 (11.5 %)	26 (7.5 %)	11.5 %	92.5 %	18.8 %	87.5 %	82.0 %

PPV (positive predictive value), NPV (negative predictive value).

Table 7. Indices of efficiency of screening tests for preeclampsia at 20 weeks.

	GroupI (n=52) preeclampsia	**Group II (n=348) Non preeclamptic**	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Accuracy**
Roll over test	8 (15 %)	30 (8.6 %)	15.4 %	91.4 %	21.1 %	87.8 %	81.5 %
Cold pressor test	9 (17.3 %)	28 (8.0%)	17.3 %	91.9 %	24.3 %	88.2 %	82.3 %
Isometric exercise test	6 (11.5 %)	27 (7.8 %)	11.5 %	92.2 %	18.2 %	87.5 %	80.3 %

PPV (positive predictive value), NPV (negative predictive value).

Table 8. Indices of efficiency of screening tests for preeclampsia at 24 weeks.

	GroupI (n=52) preeclampsia	**Group II (n=348) Non preeclamptic**	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Accuracy**
Roll over test	14 (26.9 %)	44 (12.6 %)	26.9 %	87.3 %	24.1 %	88.9 %	97.5 %
Cold pressor test	13 (25 %)	39 (11.2 %)	25.0 %	91.4 %	30.9 %	88.8 %	80.5 %
Isometric exercise test	9 (17.3 %)	41 (11.7 %)	17.5 %	88.2 %	18.0 %	87.7 %	79.0 %
serum inhibin	5 (23%)	7 (5.4%)	23.8%	94%	41%	88%	84%

PPV (positive predictive value), NPV (negative predictive value).

Maternal serum inhibin was performed for all cases showing positive roll over, cold pressor and isometric exercise tests. At 16 weeks, the median level of serum inhibin was higher among women who developed preeclampsia (group I). However, there this difference was not statistically different. On the other hand, there was a statistically significant higher value of serum inhibin among women in group I at 20 weeks ($p<0.05$) and a highly significant difference at 24 weeks ($p<0.001$) (table 9 and figure 5).

Table 9. Results of maternal serum inhibin of the studied cases at 16, 20 and 24 weeks. Data are presented as median and range.

	Preeclamptic N= 52	Non preeclamptic N= 348	Significance
Maternal serum inhibin (pg/ml) at 16 Weeks	**153 (24-445)**	**149 (22-445)**	**NS**
Maternal serum inhibin (pg/ml) at 20 Weeks	**168 (24-655)**	**159 (22-495)**	**S**
Maternal serum inhibin (pg/ml) at 24 Weeks	**197 (24-755)**	**163 (22-780)**	**HS**

S = significant (p<0.05), NS =non significant(p>0.05), HS =highly significant (p<0.001).

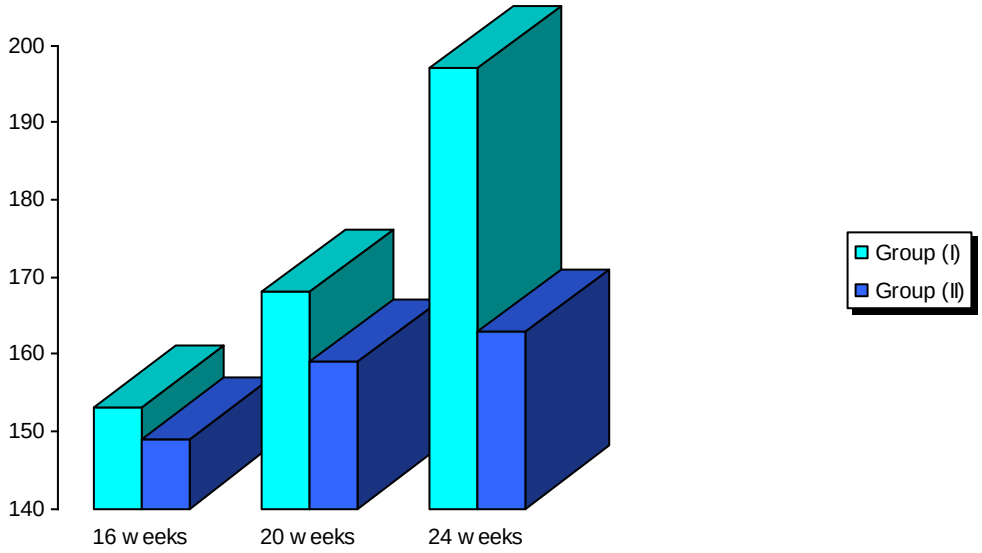

Figure 5. Median maternal serum inhibin among women with positive roll over, cold pressor and isometric exercise tests in both groups.