RESULTS

This study comprised 50 infants (40 IHM and 10 infants of normotensive mothers (as controls) delivered at Damnhour hospital.

The analytic process was carried out with the help of the Statistical Department of High Institute of Public Health, University of Alexandria. Statistical test used in this study included "t" test taking 5% level as the level of significance.

ANALYSIS OF CLINICAL DATA

Table (1) shows body weight in grams in healthy controls and infants of hypertensive mothers.

In healthy controls, body weight ranged from 2900-3500 grams with a mean value of 3135 grams $\pm$194.44 and that of infants of hypertensive mothers ranged from 1900-3400 grams with a mean value of 2908.75 $\pm$233.668.

From the table we could notice that there was statistically significant decrease ($P<0.05$) in body weight in infants of hypertensive mothers compared to healthy controls.

ANALYSIS OF LABORATORY INVESTIGATION

Table (2) shows statistical data of haemoglobin, red blood cell count, total

leucocytic count and platelets in infants of hypertensive mothers compared to healthy controls.

The haemoglobin level ranged from 14.7-19.3 gram/dl with a mean value of 16.15 $\pm$0.76 in IHM and ranged from 15.8-17.7 gram/dl with a mean value of 16.72$\pm$0.60 in healthy controls. Red blood cell count ranged from 4,900,000-6,200,000/cmm with a mean value of 5,002,500/cmm $\pm$345,288.8 in IHM and ranged from 4,800,000-5,300,000/cmm with a mean value of 5,089,000$\pm$157,370.8 in healthy controls. Total leucocytic count ranged from 4350-22,000/cmm with a mean value of 10,292.5/cmm $\pm$3694.15 in infants of hypertensive mothers and ranged from 10,000-14,000/cmm with a mean value of 12,780 $\pm$1235.4 in healthy controls. 2 cases of IHM (5%) had leucopenia $\leq$ 5000. Platelet count ranged from 12,000-300,000/cmm with a mean value 158,500/cmm $\pm$68,085.9 in IHM and ranged from 250,000-350,000 with a mean value of 302,500$\pm$33,768 in healthy controls. Platelets were normal ($\geq$ 150,000/cmm) in 23 cases (57.5%) of IHM while in 17 cases (42.5%) of IHM there was thrombocytopenia (14 cases (35%) had low platelet count < 150,000/cmm and 3 cases (7.5%) had very low platelet count < 50,000). Also from the table, there was a statistically significant decrease ($P<0.05$) concerning haemoglobin, total leucocytic count and platelet count in infants of hypertensive mothers compared to healthy controls. Also there was no statistically significant changes in red blood cell count ($P>0.05$) in IHM compared to healthy controls.

Table (3) shows statistical data of total neutrophils, segmented and band cells percentages in infants of hypertensive mothers compared to healthy controls.

Total neutrophils percentage ranged from 31-62% with a mean value of 49.55%±9.33 in IHM and ranged from 53-63% with a mean value of 58.9%±3.48 in healthy controls. 19 cases (%47.5) had total neutrophils percentage < 61%. Segmented cells percentage ranged from 31-52% with a mean value of 45.18%±5.47 in IHM and ranged from 47-60% with a mean value of 53.6%±4.17 in healthy controls. Band cells percentage ranged from 0-10 % with a mean value of 4.38%±4.58 in IHM and ranged from (1-10%) with a mean value of 5.3%±3.09 in healthy controls.

Also from the table there was a statistically significant decrease ($P<0.05$) concerning total neutrophils and segmented cells percentages in IHM compared to healthy controls. Also there was no statistically significant change ($P>0.05$) in band cells percentage compared to healthy controls.

Table (4) demonstrates statistical data of eosinophils, basophils, lymphocytes and monocytes percentages in infants of hypertensive mothers compared to healthy controls.

Eosinophil percentage ranged from 0-4% with a mean value of 2%±1.28 in IHM and ranged from 0-2.1% with a mean value 1.79%±0.63 in healthy controls.

Basophils percentage ranged from 0-4% with a mean value of 0.12%±0.63 in IHM and ranged from 0-0.3% with a mean value of 0.07%±0.12 in healthy controls. Lymphocytes percentage ranged from 24-50% with a mean value of 32.98%±7.85 in IHM and ranged from 28-40% with a mean value of 32.3%±3.62 in healthy controls. Monocytes percentage ranged from 0-5% with a mean value of 2.38%±1.78 in IHM and ranged from 3-4.5% with a mean value of 3.93%±0.55 in healthy controls.

Also from the table we could notice that there was no statistically significant change ($P > 0.05$) in eosinophils, basophils and lymphocytes percentages in IHM compared to healthy controls. However there was a statistically significant decrease in monocytes percentage ($P < 0.05$) in IHM compared to healthy controls.

Table (5) shows statistical data of SGOT, SGPT and ALP in IHM compared to healthy controls.

SGOT level ranged from 7.5-17 U/l with a mean value of 10.9±2.77 in IHM and ranged from 7-9 U/l with a mean value of 8±0.85 in healthy controls. SGPT level ranged from 7-17.5 U/l with a mean value of 10.9±2.66 in IHM and ranged from 7-9.5 U/l with a mean value of 7.75±1.14 in healthy controls. It was also evident that 11 cases of IHM (27.5%) had elevated SGOT and SGPT above 12 U/l. Also serum ALP level ranged from 11-26 Kind and King U/100 ml with a mean value 18.27±4.45 in IHM and ranged from 10-17 Kind and King U/100 ml with a

mean value of 13.85±2.71 in healthy controls. It was observed that 10 cases of IHM (25%) had elevated serum ALP above 20 Kind and King U/100 ml.

Statistically significant increase was observed in all parameters when IHM were compared to healthy controls ($P < 0.05$).

Table (6) presents statistical data of serum bilirubin (total, direct and indirect) in IHM compared to healthy controls.

From the table, it was apparent that total bilirubin ranged from 0.5-3.5 mg/100 ml with a mean value of 1.4±0.63 mg/100 ml in IHM and ranged from 0.5-1.5 mg/100 ml with a mean value of 0.89±0.31 in healthy controls. Direct bilirubin ranged from 0.14-0.32 mg /100 ml with a mean value of 0.23±0.05 in IHM and ranged from 0.17-0.28 mg/100 ml with a mean value of 0.21±0.04 in healthy controls. Also indirect bilirubin ranged from 0.11-3.27 mg/100 ml with a mean value 1.1±0.63 in IHM and ranged from 0.32-1.22 mg/100 ml with a mean value of 0.68±0.28 in healthy controls.

From the table, it was observed that there was no statistically significant difference ($P > 0.05$) in the level of direct bilirubin in IHM compared to healthy controls. However there was statistically significant increase ($P < 0.05$) in the level of indirect and total bilirubin in IHM compared to healthy controls.

Table (7) demonstrates statistical data of prothrombin activity in healthy controls and IHM.

In healthy controls, prothrombin activity ranged from 70-95% with a mean value of 80.1%±5.95. In infants of hypertensive mothers, prothrombin activity ranged from 40-90% with a mean value of 68.08%±13.3. Of 40 IHM 19 cases (47.5%) had prothrombin activity <70% (prolongation of prothrombin time). It was evident that there was a statistically significant decrease ($P < 0.05$) in prothrombin activity in IHM compared to healthy controls.

Table (8) summarizes statistical data of partial thromboplastin time in seconds in healthy controls and infants of hypertensive mothers.

In healthy controls, partial thromboplastin time ranged from 30-39 seconds with a mean value of 34.6±2.76. In IHM partial thromboplastin time ranged from 30-208 seconds with a mean value of 72.9±49.05. Also from the table we could notice that in IHM, 24 cases (60%) had partial thromboplastin time > 40 seconds. Also it was apparent from the table that there was a statistically significant increase in partial thromboplastin time $P<0.05$ in IHM compared to healthy controls.

Table (9) presents statistical data of PC activity in healthy controls and IHM.

From the table we could notice that in healthy controls PC activity ranged from

57-70% with a mean value of 61.9%$\pm$4.41 which is equivalent to 58.95% of normal adult value. In infants of hypertensive mothers PC ranged from 18-70% with a mean value of 42.62% $\pm$14.16 and that represented 40.62% of normal adult value. Also all healthy controls and IHM had PC activity $\leq$ 70%. From the table we could observe also that there was a statistically significant decrease ($P<0.05$) in PC activity in infants of hypertensive mothers compared to healthy controls.

Table (1) shows body weight in grams in infants of hypertensive mothers compared to healthy controls.

	Healthy controls	I H M
Ranges	2900 - 3500	1900 - 3400
Mean ± SD	3135 ± 194.44	2908.75 ± 233.668
T. value	3.1540	
P. value	< 0.05	
Significance	**significant**	

N.B.

- In IHM

17 cases (42.5%) had weight < 2500 grams

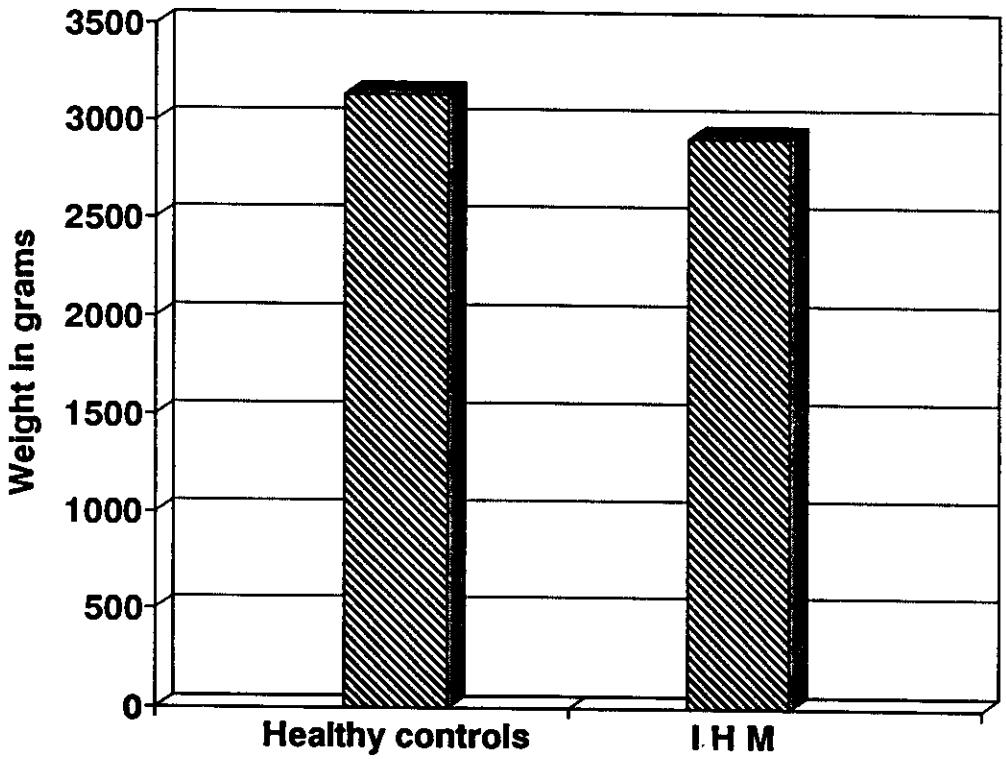

Fig. 1: Shows body weight in grams in healthy controls and IHM.

Table (2) shows statistical data of haemoglobin, red blood cells, total leucocytic counts and platelets in infants of hypertensive mothers compared to healthy controls.

	Healthy controls (N = 10)	IHM (N = 40)	T. value	P. value	Sig.
	Mean ± SD (Range)	Mean ± SD (Range)			
Hb gram/dl	16.72 ± 0.60 (15.8 - 17.7)	16.15 ± 0.76 (14.7 - 19.3)	2.5379	< 0.05	S.
R.B.CS	5,089,000 ± 157,370.8 (4,800,000 - 5,300,000)	5,002,500 ± 345,288.8 (4,900,000 - 6,200,000)	1.1709	> 0.05	N.S.
T. L. C.	12,780 ± 1235.4 (10,000 - 14,000)	10,292.5 ± 3694.15 (4350 - 22000)	3.5399	< 0.05	S.
Platelets	302,500 ± 33,768 (250,000 - 350,000)	158,500 ± 68,085.9 (12,000 - 300,000)	9.4967	< 0.05	S.

N. B.

- In IHM
  - 2 cases (5%) had leucopenia < 5000 /cmm.
  - 17 cases (42.5%) had thrombocytopenia.
  - 14 cases (35%) had low platelet count < 150,000/cmm.
  - 3 cases (7.5%) had very low platelet count < 50,000 / cmm.

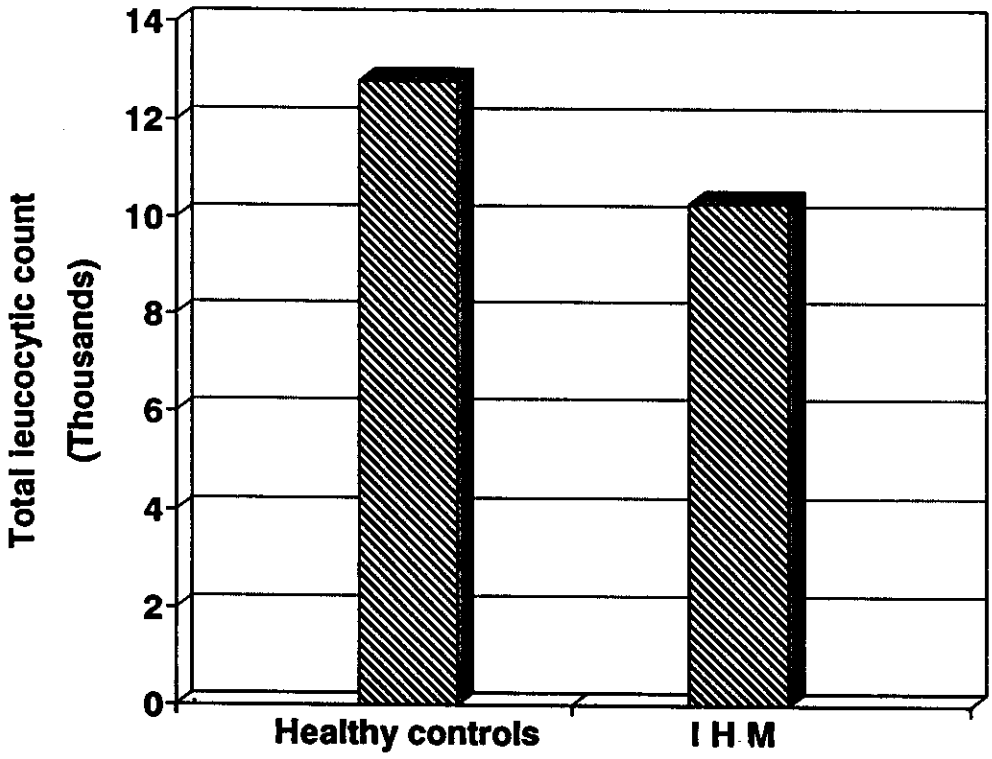

Fig. 2: Shows total leucocytic count in healthy controls and IHM.

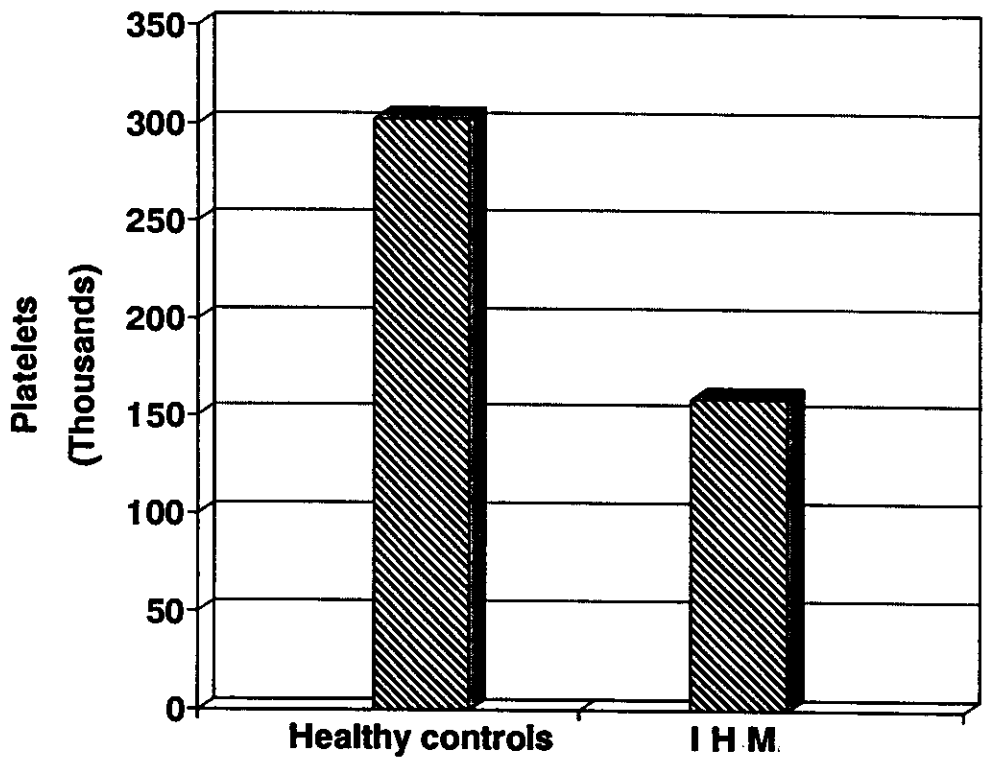

Fig. 3: Shows platelet count in healthy controls and IHM.

Table (3) shows statistical data of total neutrophils, segmented and band cells percentages in infants of hypertensive mothers compared to healthy controls.

	Healthy controls (N = 10)	IHM (N = 40)	T. value	P. value	Significance
	Mean ± SD (Range)	Mean ± SD (Range)			
Total neutrophils %	58.9 ± 3.48 (53 - 63)	49.55 ± 9.33 (31 - 62)	5.0802	< 0.05	S.
Segmented cells %	53.6 ± 4.17 (47 - 60)	45.18 ± 5.47 (31 - 52)	5.3392	< 0.05	S.
Band cells %	5.3 ± 3.09 (1 - 10)	4.38 ± 4.58 (0 - 10)	0.75643	> 0.05	N. S.

N.B.

In IHM :

19 cases (%47.5) had total neutrophils percentage < 61 %.

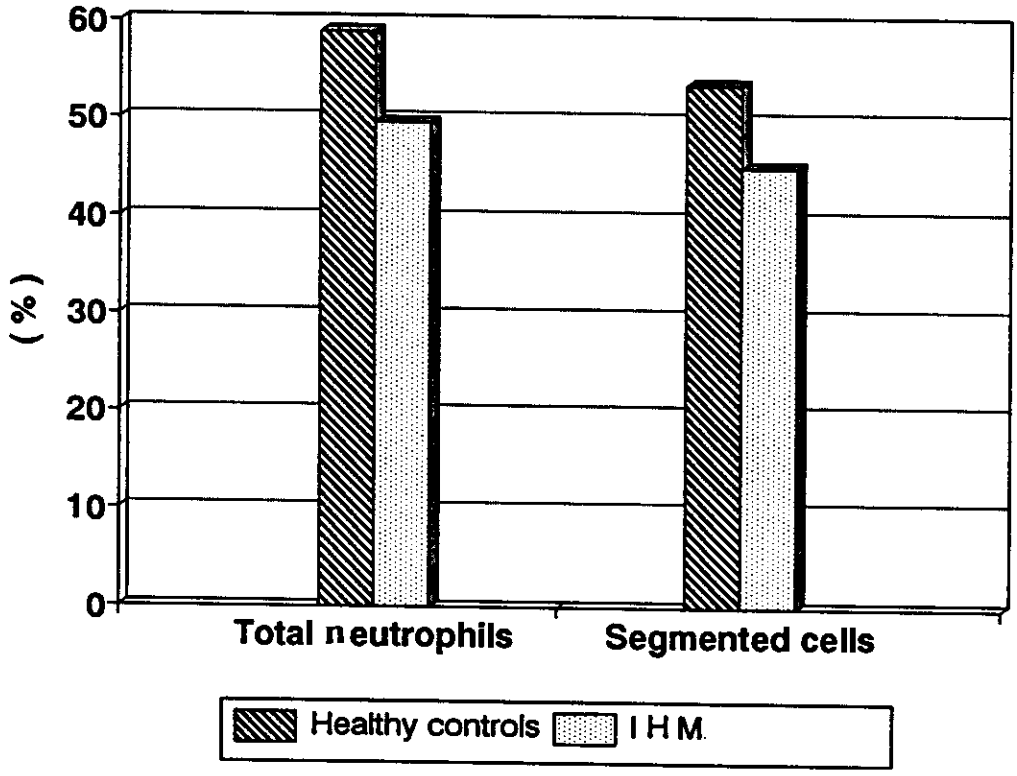

Fig. 4: Shows total neutrophils and segmented cells percentages in healthy controls and IHM.

Table (4) demonstrates statistical data of eosinophils, basophils, lymphocytes and monocytes percentages in infants of hypertensive mothers compared to healthy controls.

	Healthy controls (N = 10)	IHM (N = 40)	T. value	P. value	Significance
	Mean ± SD (Range)	Mean ± SD (Range)			
Eosinophils %	1.79 ± 0.63 (0 - 2.1)	2 ± 1.28 (0 - 4)	0.73946	> 0.05	N. S.
Basophils %	0.07 ± 0.12 (0 - 0.3)	0.12 ± 0.63 (0 - 4)	0.46906	> 0.05	N. S.
Lymphocytes %	32.3 ± 3.62 (28 - 40)	32.98 ± 7.85 (24 - 50)	0.40272	> 0.05	N.S.
Monocytes %	3.93 ± 0.55 (3 - 4.5)	3.38 ± 1.78 (0 - 5)	4.6925	< 0.05	S.

Table (5) presents statistical data of SGOT, SGPT, serum alkaline phosphatase in infants of hypertensive mothers compared to healthy controls.

	Healthy controls (N = 10)	IHM (N = 40)	T. value	P. value	Significance
	Mean ± SD (Range)	Mean ± SD (Range)			
SGOT U/l	8 ± 0.85 (7 - 9)	10.9 ± 2.77 (7.5 - 17)	5.6433	< 0.05	S.
SGPT U/l	7.75 ± 1.14 (7 - 9.5)	10.9 ± 2.66 (7 - 17.5)	5.6865	< 0.05	S.
ALP (Kind and King U/100ml)	13.85 ± 2.71 (10 - 17)	18.27 ± 4.45 (11 - 26)	3.9862	< 0.05	S.

N.B.

In IHM

- 11 cases (27.5%) had elevated SGOT and SGPT above 12 (U/l).
- 10 cases (25%) had elevated ALP above 20 (Kind and King U/100 ml).

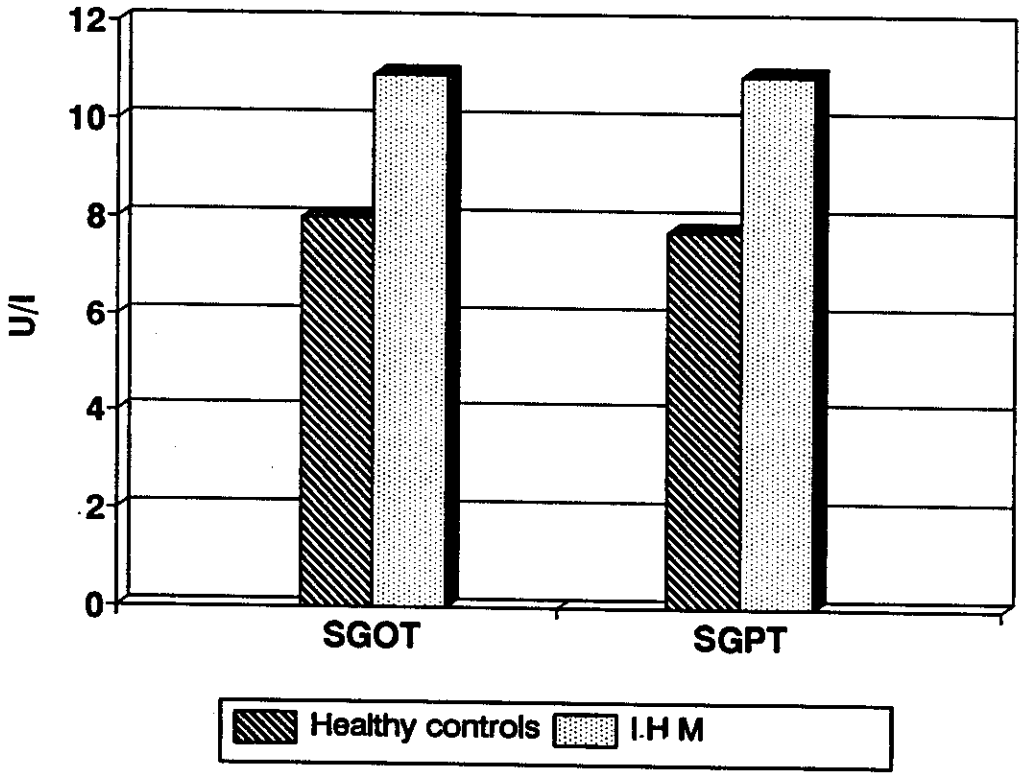

Fig. 5: Shows SGOT and SGPT in healthy controls and IHM.

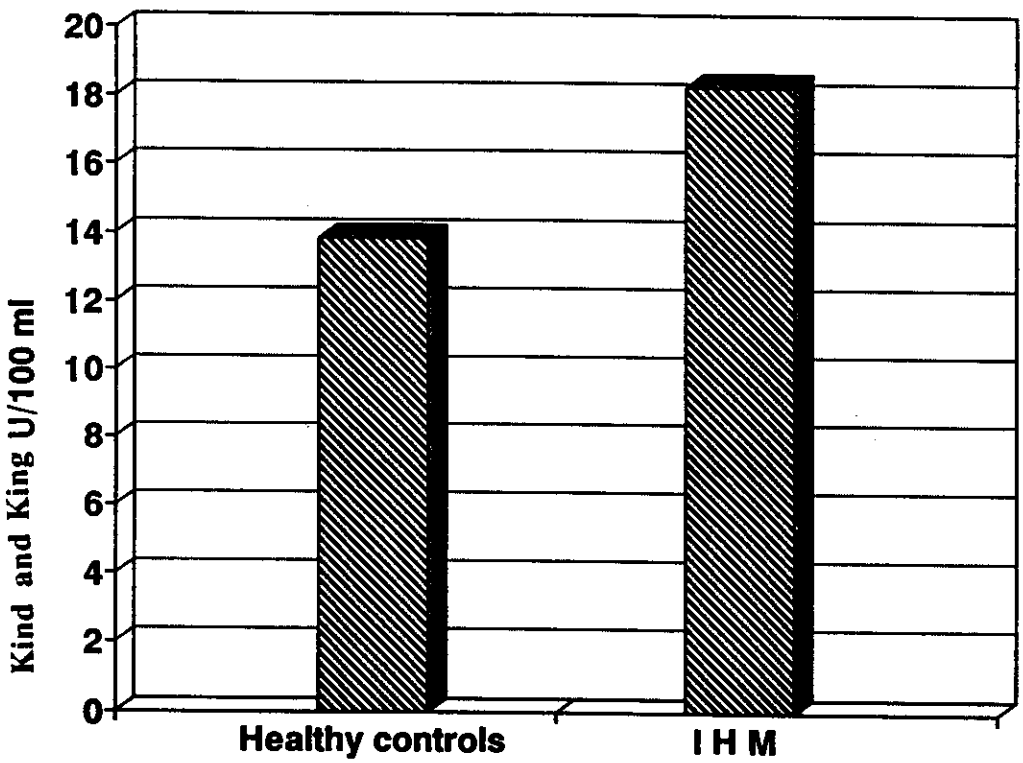

Fig. 6: Shows serum ALP in healthy controls and IHM.

Table (6) presents statistical data of serum bilirubin (direct, indirect and total) in IHM compared to healthy controls.

	Healthy controls (N = 10)	IHM (N = 40)	T. value	P. value	Significance
	Mean ± SD (Range)	Mean ± SD (Range)			
Direct bilirubin mg/100 ml	0.21 ± 0.04 (0.17 - 0.28)	0.23 ± 0.05 (0.14 - 0.32)	1.3408	> 0.05	N. S.
Indirect bilirubin mg/100 ml	0.68 ± 0.28 (0.32 - 1.22)	1.1 ± 0.63 (0.11 - 3.27)	1.8121	< 0.05	S.
Total bilirubin mg/100 ml	0.89 ± 0.31 (0.5 - 1.5)	1.4 ± 0.63 (0.5 - 3.5)	3.6260	< 0.05	S.

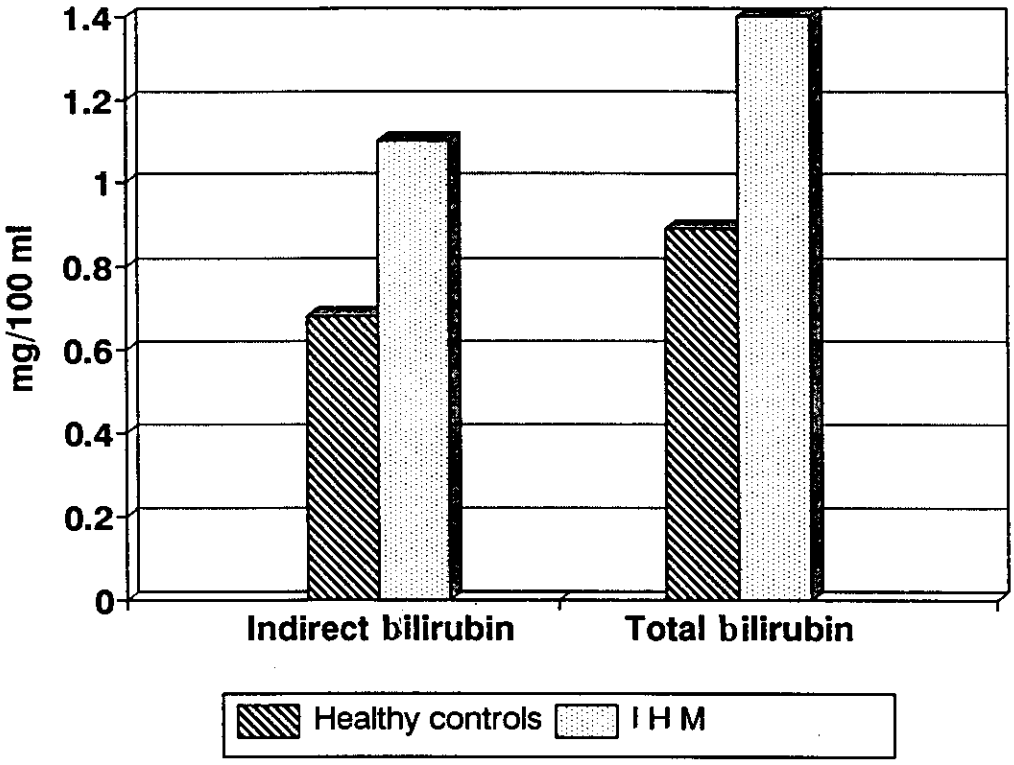

Fig. 7: Shows indirect and total bilirubin in healthy controls and IHM.

Table (7) demonstrates statistical data of prothrombin time (activity) in healthy controls and infants of hypertensive mothers.

	Healthy controls	IHM
Range	70 - 95%	40 - 90%
Mean ± SD	80.1% ± 5.95	68.08% ± 13.3
T. value	4.2597	
P. value	< 0.05	
Significance	S.	

N.B.

In IHM

19 cases (47.5%) had prothrombin activity < 70%.

Table (8) shows statistical data of partial thromboplastin time (seconds) in healthy controls and infants of hypertensive mothers.

	Healthy controls	IHM
Range	30 - 39 sec	30 - 208 sec
Mean ± SD	34.6 sec ± 2.76	75.9 sec ± 49.05
T. value	5.2918	
P. value	< 0.05	
Significance	S.	

N.B.

In IHM

24 cases (60%) had partial thromboplastin time (seconds) > 40

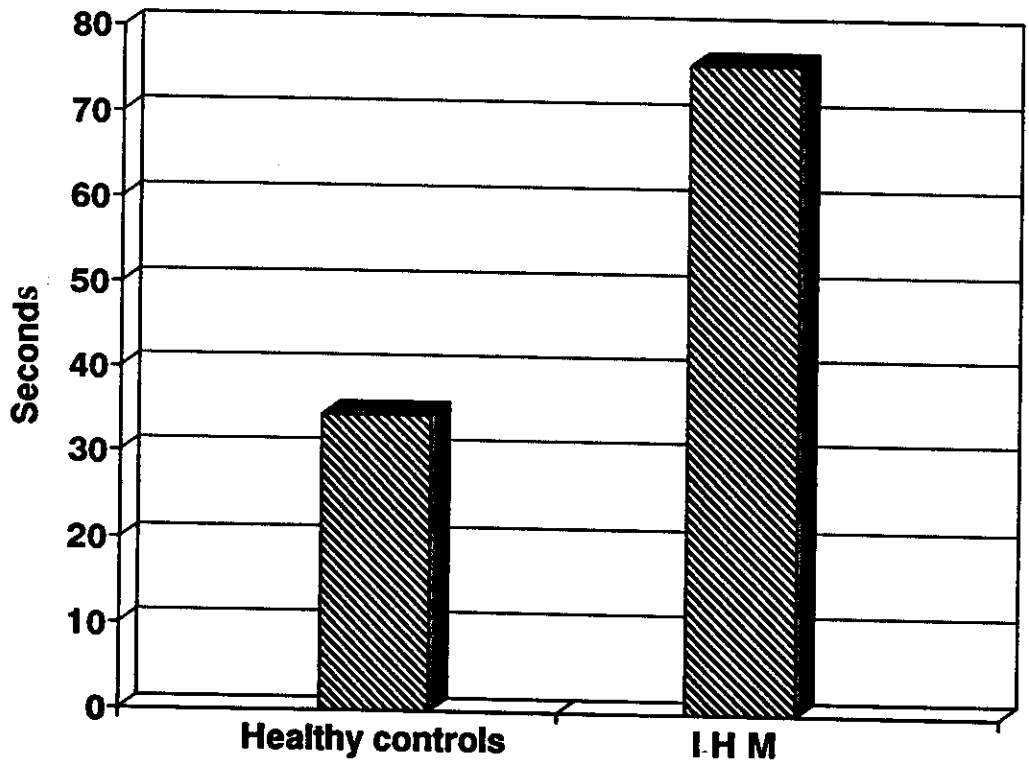

Fig. 8: Shows partial thromboplastin time (seconds) in healthy controls and IHM.

Table (9) presents statistical data of protein C activity in healthy controls and infants of hypertensive mothers.

	Healthy controls	IHM
Range	57 - 70%	18 - 70%
Mean ± SD	61.9% ± 4.41	42.65% ± 14.16
% to adult value	58.95%	40.62%
T. value	7.2980	
P. value	< 0.05	
Significance	S.	

N.B.

In 2 groups, all healthy controls and IHM had PC activity ≤ 70%.

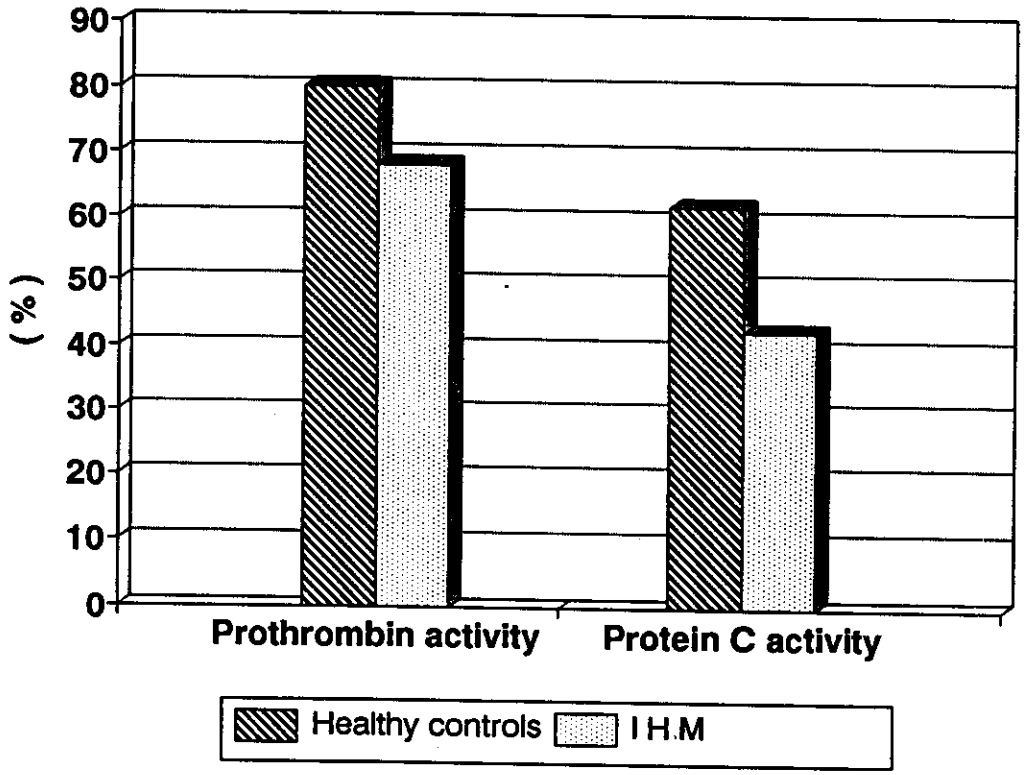

Fig. 9: Shows prothrombin activity and protein C activity in healthy controls and IHM.