

RESULTS

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Table (1) : Sex distribution of infants under study.

Study groups	Male	%	Female	%	M/F
patients n = 40	20	50	20	50	1
Controls n = 20	11	55	9	45	1.22
Total	31	51.6	29	48.4	1.06

$$\chi^2_1 = 0.148$$

$$P > 0.05$$

M/F = male / Female

Table (2) : Mean and standard deviation of of age of infants under study.

Study groups	No. of	Age in days	
	Cases	Range	Mean + S.D
Patients	40	1 - 28	12.475 ± 7.815
Controls	20	1 - 30	11.052 ± 5.825

$$t = 0.794$$

$$P > 0.05$$

Table (3) : Gestational age of infants under study

Study groups	No. of Cases	C.GA * in weeks	
		Range	Mean $\pm$ S.D
Patients	40	30 - 40	37.85 $\pm$ 3.879
Controls	20	32 - 40	37.5 $\pm$ 3.300
t = 0.364		P > 0.05	

* Calculated by Dubowitz scoring system (Dubowitz et al., 1970) .

C.GA = Calculated gestational age

Table (4) : Weight of infants under study

Study groups	No. of Cases	Wt · In Grams	
		Range	Mean $\pm$ S.D
Patients	40	1250 - 4500	2880 $\pm$ 810.808
Controls	20	2000 - 4100	2980 $\pm$ 686.792
t = 0.499		P > 0.05	

Table (5) : Frequency of clinical findings in patient under study .

Clinical findings	No. of cases n = 40	%
- Feed refusal	23	57.5
- Poor reflexes	8	20.0
- Jaundice	10	25.0
- Resp. Distress	10	25.0
- Cyanosis	3	7.5
- Vomiting	8	20.0
- Diarrhea	9	22.5
- Dehydration	3	7.5
- Oliguria	7	17.5
- Shock	9	22.5
- Hepatomegaly	16	40.0
- Splenomegaly	10	25.0
- Abdominal distension	3	7.5
- Umbilical sepsis	7	17.5
- Fever	6	15.0
- Hypothermia	7	17.5
- Convulsion	4	10.0
- Lethargy	8	20.0
- Petechiae	4	10.0

N.B. : Patients presenting by more than one clinical manifestations have been recorded more than once according to each of the clinical findings present .

Table (6): Total leucocytic count, absolute neutrophilic count, platelet count and Immature to total neutrophils ratio in patients and controls .

Study groups	No. of cases		TLC (/mm ³)	ANC (/mm ³)	Plat.C (/mm ³)	LT ratio
patients	40	Range	2,760 -	2,322 -	14,100 -	0.04 -
			48,600	38,880	280,000	0.47
		Mean±SD	15484	11065	130152	0.23
			±11075	±8480	±71019	±0.098
Controls	20	Range	10,700 -	4,100 -	162,000 -	0.05 -
			21,300	10,200	295,000	0.13
		Mean±SD	15825	6675	220500	0.09
			± 3026	±1999	±42419	±0.026
		t	0.181	3.105	6.146	8.459
		P	> 0.05	< 0.05	< 0.05	< 0.05

TLC = Total Leucocytic count .

ANC = Absolute Neutrophilic count .

LT ratio = Immature to Total neutrophils ratio .

Plat.C = Platelet count .

Table (7a) : Frequency of the Haematological scores (H.S) in septicemic patients .

H. Score	No. of cases	% of Total
1	4	10.0%
2	3	7.5
3	9	22.5%
4	14	35.0%
5	7	17.5%
6	3	7.5%

H. score = Haematological score

Table (7b) : Sensitivity of Haematological scoring system (H.S.S) in septicemic patients .

H. S.S. level	No. of cases	%
≥ 3	33	82.5
< 3	7	17.5

Sensitivity = 82.5%

H.S.S = Haematological scoring system .

Table (8): Isolated organisms encountered in blood cultures of patients group .

Organism	No. of cases	% of Total
E. Coli	13	32.5
Klebsiella	8	20.0
Pseudomonas	9	22.5
Staph. aureus	8	20.0
Streptococci	2	5.0

Table (9): Relation between causative organisms and occurrence of shock in the studied cases .

type of causative organism	Total	patients n	with shock %
E. Coli	13	1	7.69
Pseudomonas	9	4	44.44
Klebsella	8	2	25
Staph. aureus	8	2	25
Streptococci	2	0	0

Table (10) : Serum cortisol, serum aldosterone and 24 hours urine catecholamines in patients and controls .

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
Patients	40	Range	94 - 2600	125 - 1800	19.5 - 76.7
		Mean±SD	668	818	42.88
			± 442.955	± 379.237	± 13.684
Controls	20	Range	38 - 200	68 - 500	6.3 - 16.1
		Mean±SD	121	318	11.28
			± 49.602	± 133.806	11.28
		t	7.716	7.453	14.024
		P	< 0.05	< 0.05	< 0.05

Table (11) : Serum cortisol, serum aldosterone and 24 hours urine catecholamines in sick preterm infants and sick full term infants under study .

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
Sick preterm infants	10	Range	360 - 2600	270 - 1800	25.5 - 76.7
		Mean±SD	831	896	45.27
			± 651.706	± 455.392	± 14.745
Sick full term infants	30	Range	94 - 1300	125 - 1400	19.5 - 74.6
		Mean±SD	614	792	42.09
			± 346.258	± 355.364	± 13.481
		t	1.006	0.655	0.603
		P	> 0.05	> 0.05	> 0.05

Table (12) :Serum cortisol, serum aldosterone and 24 hours urine catecholamines
in preterm and full - term infants of the controls group .

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
Healthy preterms	8	Range	48 - 180	140 - 500	6.3 - 12.9
		Mean±SD	119	390	9.5
			± 49.589	± 112.757	± 2.134
Healthy full terms	12	Range	38 - 200	68 - 460	6.7 - 16.1
		Mean±SD	122	271	12.4
			± 51.645	± 129.255	± 2.712
		t	0.119	2.170	2.674
		P	> 0.05	< 0.05	< 0.05

Table (13): Serum cortisol, serum aldosterone and 24 hours urine catecholamines in preterm infants of both groups .

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
Sick preterm infants	10	Range	360 - 2600	270 - 1800	25.5 - 76.7
		Mean± SD	831	896	45.2
			± 651.706	± 455.392	± 14.745
Healthy preterm infants	8	Range	48 - 180	140 - 500	6.3 - 12.9
		Mean± SD	119.5	390	9.5
			± 49.589	± 112.757	± 2.134
		t	3.439	3.386	7.572
		P	< 0.05	< 0.05	< 0.05

Table (14): Serum cortisol, serum aldosterone and 24 hours urine catecholamines in full- term infants of both groups :

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
Sick full term infants.	30	Range	94 - 1300	125 - 1400	19.5 - 74.6
		Mean± SD	614	792	42.09
			± 346.258	± 355.364	± 13.481
Healthy full - term infants	12	Range	38 - 200	68 - 460	6.7 - 16.1
		Mean± SD	122	271	12.40
			± 51.645	± 129.255	± 2.712
		t	7.753	6.961	11.492
		P	< 0.05	< 0.05	< 0.05

Table (15): Serum cortisol, serum aldosterone and 24 hours urine catecholamines in infants with shock and in infants without shock .

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
infants with shock	9	Range	500 - 2600	940 - 1150	32.6 - 74.6
		Mean±SD	1096	1053	49.30
			± 624.644	± 65.574	± 11.929
infants without shock	31	Range	94 - 1200	125 - 1800	19.5 - 76.7
		Mean±SD	511	750	41.01
			± 274.193	± 405.525	± 13.760
		t	2.274	3.986	1.770
		P	< 0.05	< 0.05	> 0.05

Table (16) : Serum cortisol, serum aldosterone and 24 hours urine catecholamines in septicemic patients, in relation to type of causative organism

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
E. Coli	13	Range	94 - 2600	190 - 1250	19.5 - 76.7
		Mean±SD	709	674	40.54
			± 653.666	± 367.460	± 14.952
Klebsiella	8	Range	360 - 1300	460 - 1400	32.2 - 72.9
		Mean±SD	681	928	44.66
			± 307.545	± 276.479	± 15.74.6
Pseudomonas	9	Range	400 - 1210	125 - 1800	25.5 - 74.6
		Mean±SD	771	876	46.04
			± 289.717	± 501.035	± 15.071
Staph. aureus	8	Range	200 - 1100	260 - 1300	24.6 - 57.2
		Mean±SD	543	811	41.53
			± 315.229	± 341.234	± 10.913
Streptococci	2	Range	170 - 600	860 - 1300	38.4 - 45.9
		Mean±SD	385	1080	42.15
			± 304.055	± 311.126	± 5.303
		F *	0.371	0.886	0.322
		P	> 0.05	> 0.05	> 0.05

* The group of patients who were having septicemia caused by streptococci, were not included in statistical analysis because of its small number .

Table (17): Serum cortisol, serum aldosterone and 24 hours urine catecholamines in septicemic patients, in relation to degree of haematological scoring system.

H.S.S	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
< 3	7	Range	360 - 1200	190 - 1250	19.5 - 57.6
		Mean±SD	711	734	37.7
			± 323.904	± 375.585	± 11.899
≥ 3	33	Range	94 - 2600	125 - 1800	32.2 - 76.7
		Mean±SD	659	836	43.9
			± 467.939	± 383.351	± 13.949
		t	0.355	0.650	1.230
		P	> 0.05	> 0.05	> 0.05

H.S.S = Haematological scoring system.

Table (18): Serum cortisol, serum aldosterone and 24 hours urine catecholamines in septicemic patients, in relation to total leucocytic count .

TLC	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
< 5,000 + > 25,000 / mm ³	10	Range	180 - 1100	250 - 1080	27.7 - 72.9
		Mean±SD	549	735	39.75
			± 323.056	± 303.397	± 15.003
5.000 - 25,000 / mm ³	30	Range	94 - 2600	125 - 1800	19.5 - 76.7
		Mean±SD	708	846	43.93
			± 474.267	± 402.058	± 13.321
		t	1.188	0.920	0.784
		P	> 0.05	> 0.05	> 0.05

TLC = Total leucocytic count .

Table (19) : Serum cortisol, serum aldosterone and 24 hours urine catecholamines in septicemic patients, in relation to immature / total neutrophils ratio .

I : T ratio	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
≤ 0.2	12	Range	210 - 1200	190 - 1250	19.5 - 76.7
		Mean±SD	674	694	45.92
			± 288.215	± 330.714	± 19.534
> 0.2	28	Range	94 - 2600	125 - 1800	32.2 - 74.6
		Mean±SD	665	871	42.65
			± 499.477	± 391.646	± 12.016
		t	0.066	1.468	0.537
		P	> 0.05	> 0.05	> 0.05

I.T = Immature to total neutrophils ratio .

Table (20) : Calcium levels in controls and patients .

Study groups	No. of cases		Calcium level mg / dl
Patients	40	Range	5.6 - 10.1
		Mean $\pm$ SD	8.15 $\pm$ 1.175
Controls	20	Range	8.7 - 10.4
		Mean $\pm$ SD	9.45 $\pm$ 0.505
		t	5.956
		P	< 0.05

Study of Prognostic Factors :

Table (21) : Total leucocytic count, absolute neutrophilic count and calcium levels of living and dead septicemic patients .

Study groups	No. of cases		TLC (mm ³)	ANC (mm ³)	Calcium levels mg/dl
Living	25	Range	2760 - 45,000	2322 - 34650	6.2 - 10.1
		Mean±SD	16148	11405	8.47
			±10416	±8115	±1.055
Dead	15	Range	3,800 - 48,600	2,242 - 34,880	5.6 - 9.4
		Mean±SD	14377	10498	7.64
			±12394	±9322	±1.206
		t	0.463	0.312	2.222
		P	> 0.05	> 0.05	< 0.05

TLC = Total leucocyte count

ANC = Absolute Neutrophils count .

Table (22): Serum cortisol, serum aldosterone and 24 hours urine catecholamines of living and dead septicemic patients .

Study groups	No. of cases		Cortisol ng/ ml.	Aldosterone pg/ml.	24 hours urine catecholamines ug/day
Living	25	Range	94 - 1210	190 - 1400	19.5 - 76.7
		Mean±SD	594	780	44.16
			± 313.727	± 361.466	± 15.632
Dead	15	Range	200 - 2600	125 - 1800	25.5 - 55.6
		Mean±SD	790	881	40.74
			± 593.470	± 412.233	± 9.743
		t	1.181	0.778	0.852
		P	> 0.05	> 0.05	> 0.05

Table (23): Correlation coefficient between serum electrolytes, calcium and adrenal hormones in study groups .

Variables	Study groups	Na ⁺		K ⁺		Ca ⁺⁺	
		r	p	r	p	r	p
Cortisol	Patients	0.032	N.S	0.104	N.S	- 0.303	N.S
	Controls	0.437	N.S	0.255	N.S	0.016	N.S
Aldosterone	Patients	0.022	N.S	0.199	N.S	- 0.301	N.S
	Controls	- 0.320	N.S	0.079	N.S	- 0.172	N.S
24 hours urine	Patients	- 0.134	N.S	- 0.172	N.S	- 0.033	N.S
Catecholamines	Controls	0.380	N.S	0.215	N.S	0.183	N.S

- N.S = Not Significant (P > 0.05) .

ISOLATED ORGANISMS ENCOUNTERED IN BLOOD CULTURES

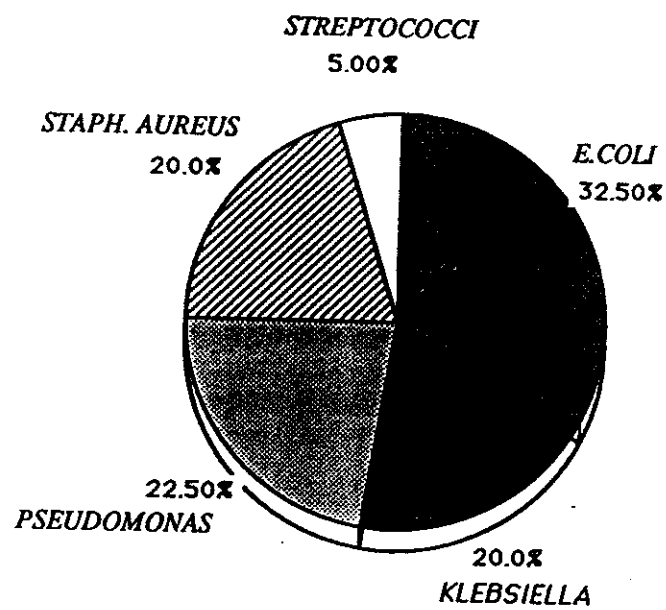


FIG. 1

Serum cortisol values in patients vs. controls. in sick fullterms vs. sick preterms, and in shocked patients vs. non-shocked patients

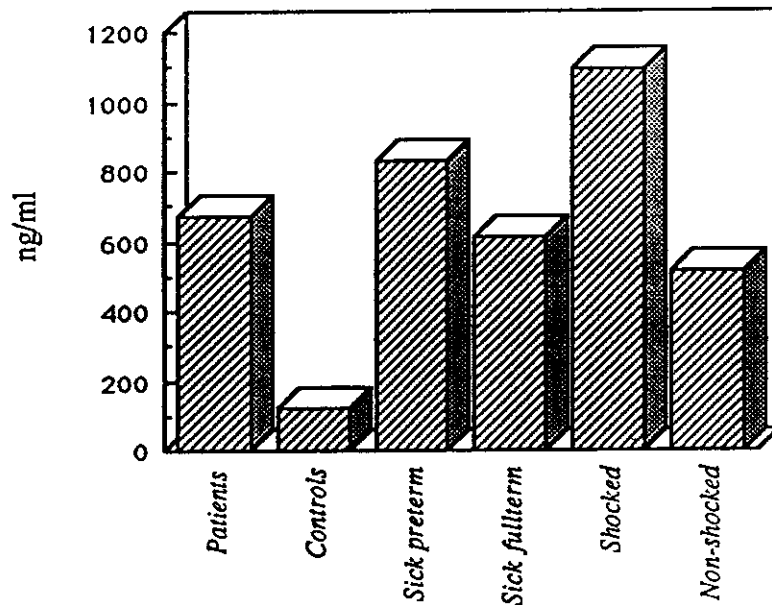


FIG. 2

**Serum aldosterone values in patients vs. controls,
in sick fullterms vs. sick preterms, and in
shocked patients vs. non-shocked patients**

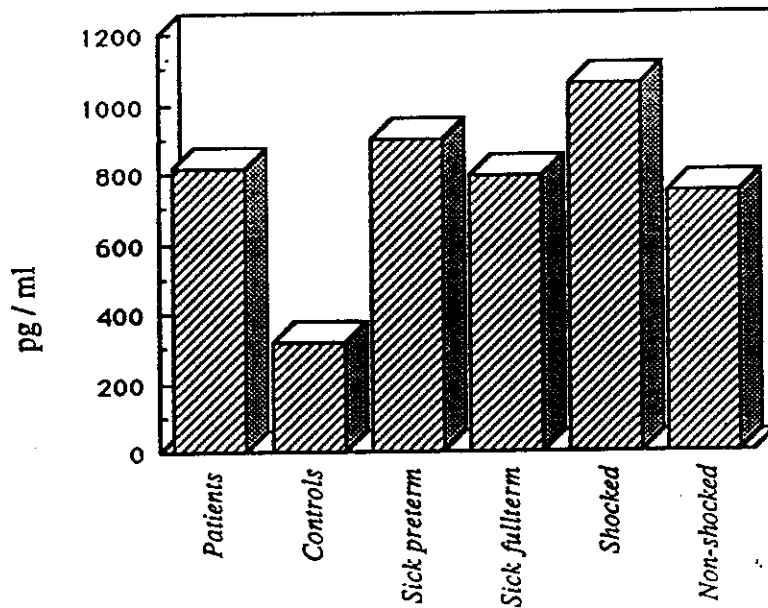


FIG. 3

24 hours urinary catecholamines in patients vs. controls, in sick fullterms vs. sick preterms, and in shocked patients vs. non-shocked patients

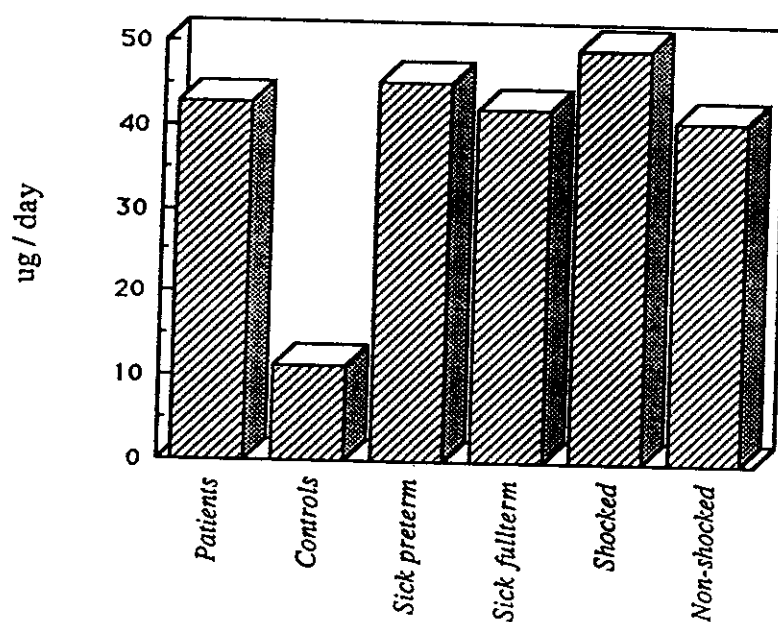


FIG. 4