

Statistical analysis

A- Neonatal sepsis patients

Table (7): Various maternal and neonatal risk factors of neonatal sepsis

Parameter	Variables	Cases (n=101)	Control (n=26)	Statistical significance
Maternal age	<20	7	3	P= 0.426
	≥ 20	94	23	Or 1.148
Educational status	Illiterate	40	9	P= 0.821
	Literate or more	61	17	Or 1.044
Socioeconomic status	Poor	31	1	P= 0.0044
	Moderate or more	70	25	Or 0.76
Parity	Primi	26	5	P= 0.612
	Multi	75	21	Or 0.931
Mode of delivery	Vaginal	26	9	P= 0.46
	Instrumental/LCS	75	17	Or 1.09
PROM	Yes	28	0	P= 0.001
	No	73	26	Or 1.35
MSAF	Yes	2	1	P= 0.5
	No	99	25	Or 0.835
Maternal fever	Yes	7	0	P= 0.343
	No	94	26	Or 1.277
PIH	Yes	12	2	P= 0.73
	No	89	24	Or 1.088
PET/Eclampsia	Yes	8	1	P= 0.68
	No	93	25	Or 1.128
APH	Yes	7	1	P= 1.0
	No	94	25	Or 1.108
Maternal chr.dis.& medications	Yes	12	1	P= 0.301
	No	89	25	Or 1.182
Birth weight	< 2.5	51	7	P= 0.0459
	≥ 2.5	50	19	Or 1.213
mean± SD (Grams)		2408±792	2895±632	P=0.0018
Apgar score (1 minute)	< 7	68	9	P= 0.0033
	≥ 7	33	17	Or 1.338
Gestation age	Preterm	51	5	P= 0.0042
	Full term	50	21	Or 1.293
Sex	Male	68	10	P= 0.0119
	Female	33	16	Or 1.294
Birth asphyxia	Yes	8	0	P= 0.2054
	No	93	26	Or 1.28
Complications during labour	Yes	12	1	P= 0.3017
	No	89	25	Or 1.182
Sepsis score mean± SD		4.426±2.299	1.5±0.9487	P<0.0001

PROM= premature rupture of membrane

MSAF= meconium stained amniotic fluid

PET= pre eclamptic toxemia

APH= ante partum hemorrhage

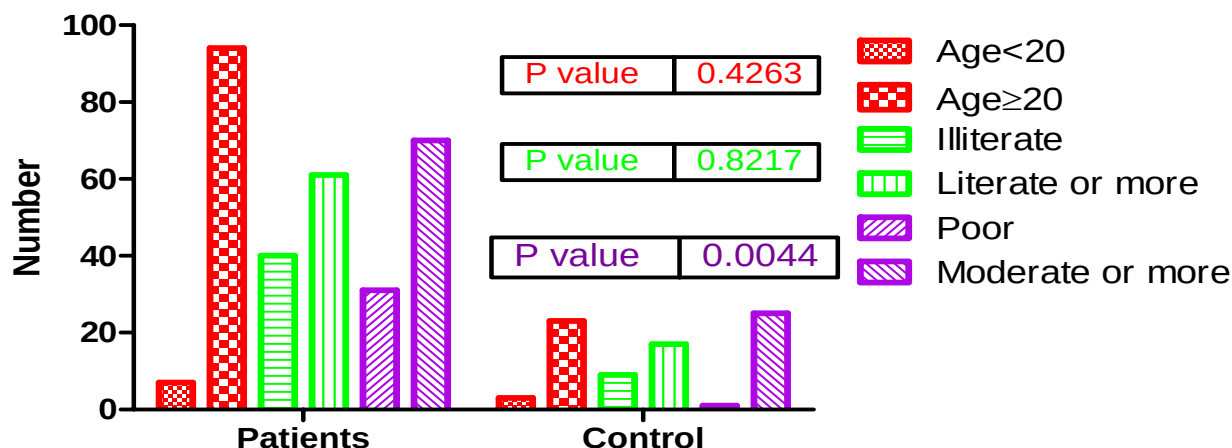


Figure (1): Maternal age, educational status and socioeconomic status in neonatal sepsis newborns and control.

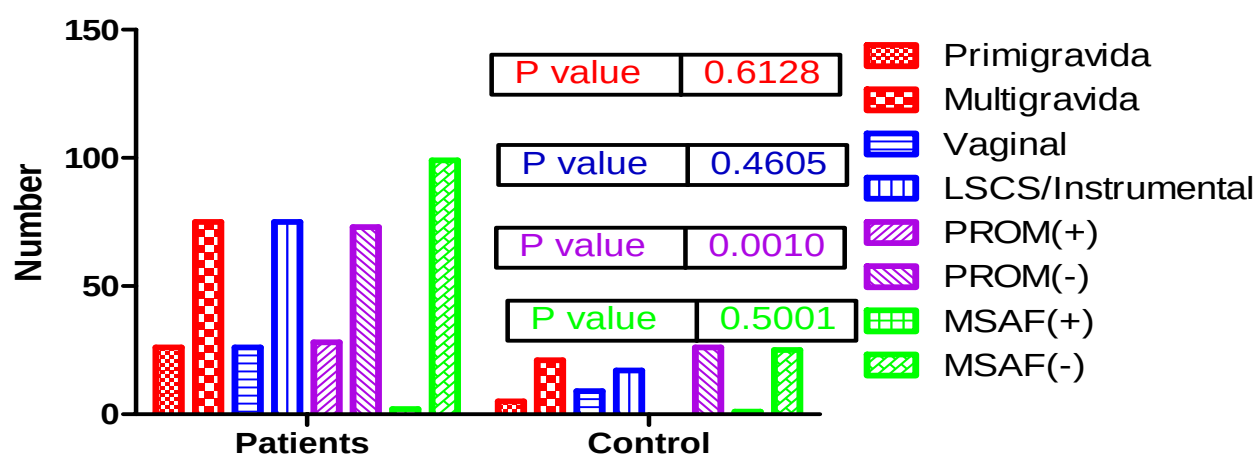


Figure (2): Parity, mode of delivery, premature rupture of membranes (PROM) and meconium stained amniotic fluid (MSAF) in neonatal sepsis newborns and control.

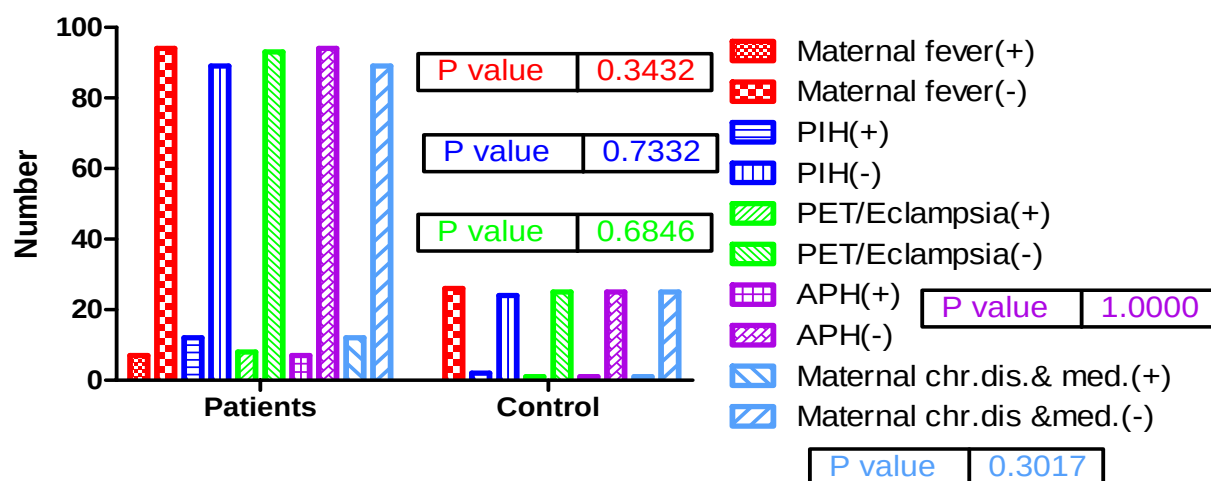


Figure (3): Maternal fever, pregnancy induced hypertension (PIH), Preeclamptic toxemia (PET)/Eclampsia, antepartum hemorrhage (APH) and maternal chronic diseases and medications in neonatal sepsis newborns and control.

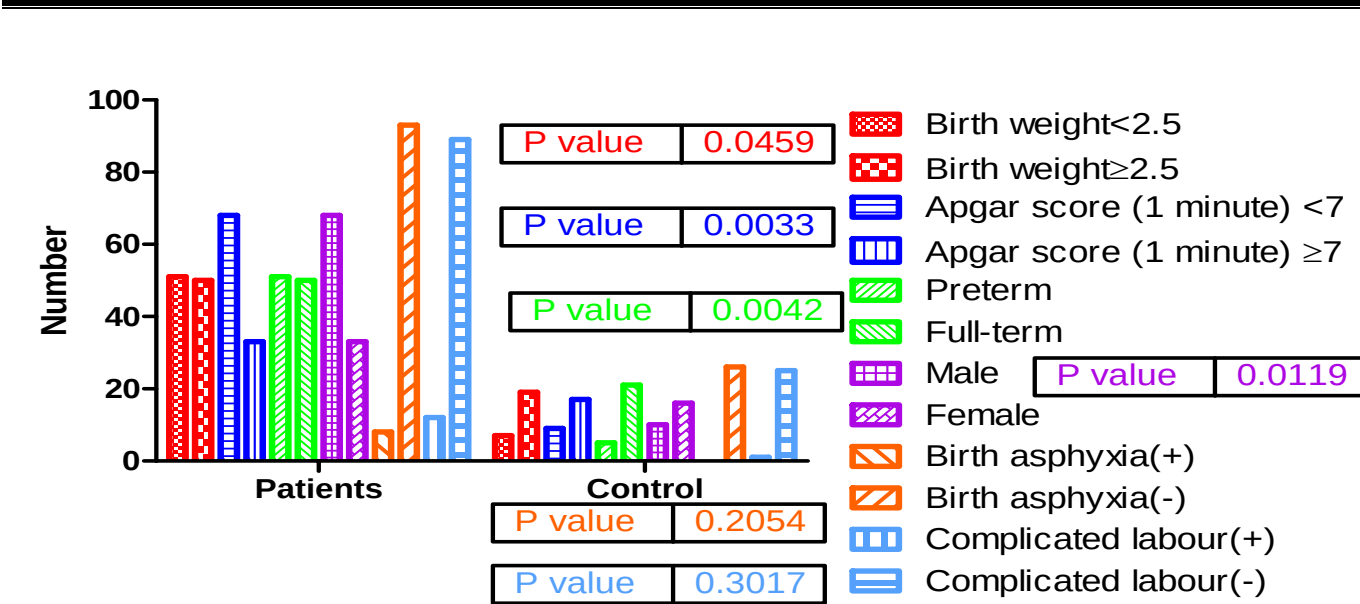


Figure (4): Birth weight, Apgar score, gestational age, sex, birth asphyxia and complicated labour in neonatal sepsis newborns and control.

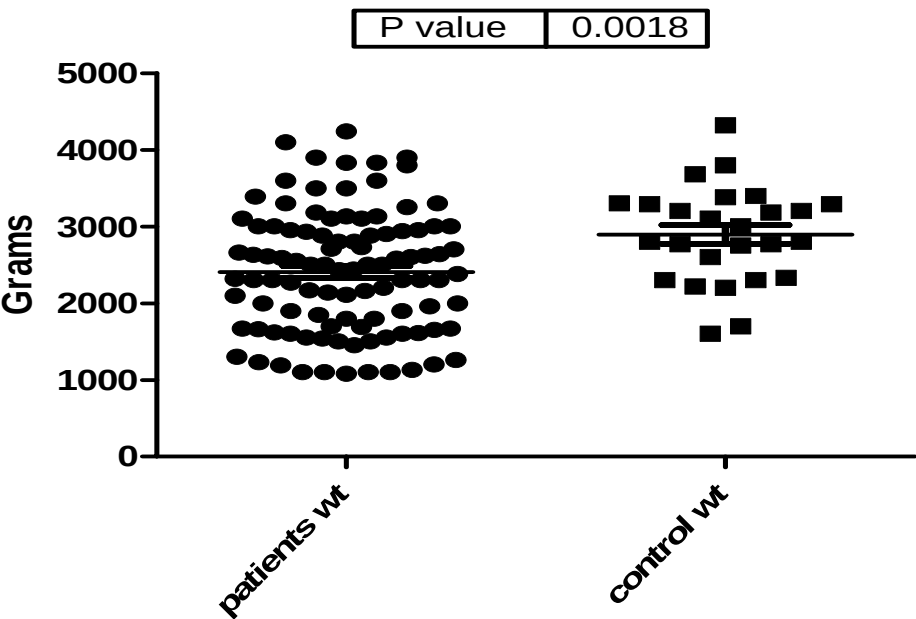


Figure (5): Distribution of birth weight (Grams) in neonatal sepsis patients and control.

Table (8): Neonatal sepsis score in neonatal sepsis patients (clinically diagnosed)

Score	No of patients	Percent
1	11	10.9%
2	17	16.9%
3	11	10.9%
4	11	10.9%
5	15	14.9%
6	14	13.9%
7	15	14.9%
8	4	3.9%
9	2	1.9%
10	0	0
11	1	0.9%

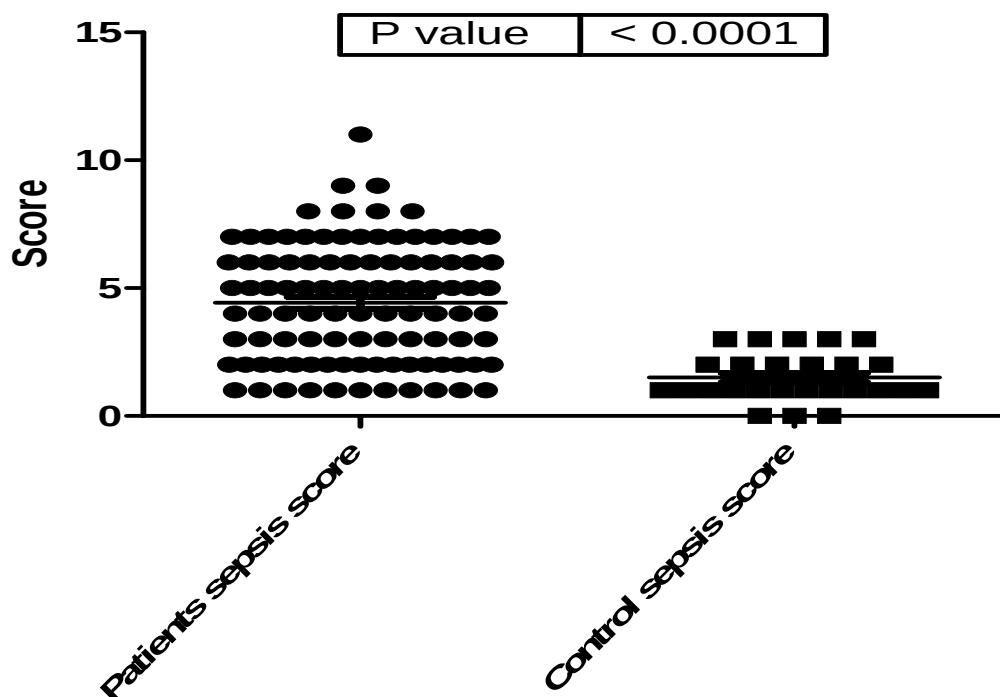
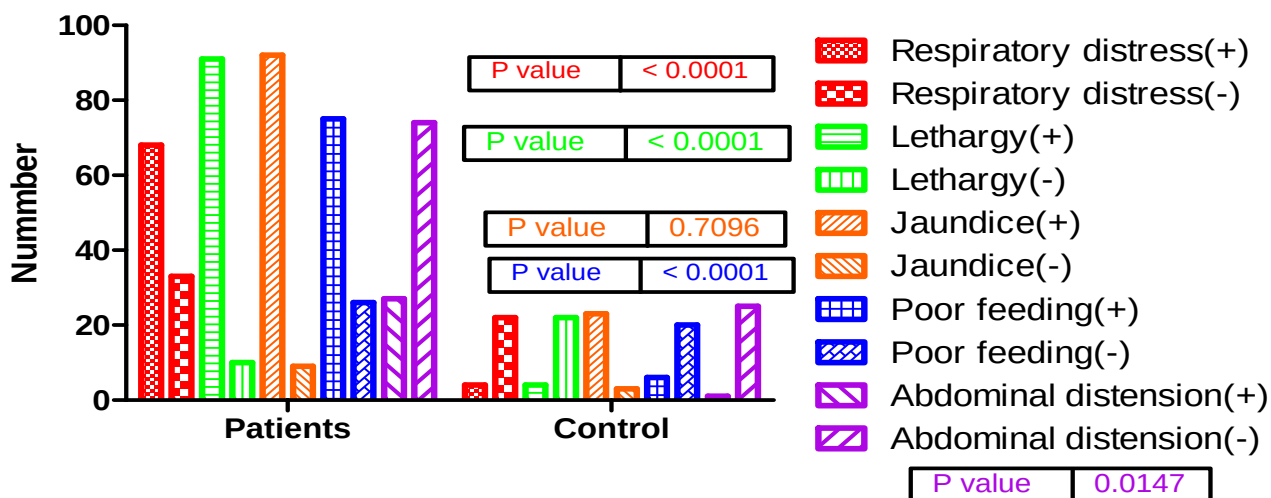
**Figure (6):** Distribution of neonatal sepsis score in neonatal sepsis patients and control

Table (9): Clinical profile of neonatal sepsis

Parameter	Variable	Cases (n=101)	Control (n=26)	Statistical significance
Respiratory distress	Yes	68	4	P < 0.0001
	No	33	22	
Lethargy	Yes	91	4	P < 0.0001
	No	10	22	
Jaundice	Yes	92	23	P= 0.709
	No	9	3	
Poor feeding	Yes	75	6	P < 0.0001
	No	26	20	
Abdominal distension	Yes	27	1	P= 0.0147
	No	74	25	
Apnea	Yes	13	0	P= 0.0688
	No	88	26	
Vomiting	Yes	7	0	P= 0.3432
	No	94	26	
Hypothermia	Yes	26	0	P= 0.0019
	No	75	26	
Cyanosis	Yes	38	0	P < 0.0001
	No	63	26	
Irritability	Yes	2	0	P= 1.0
	No	99	26	
Convulsions	Yes	5	0	P= 0.58
	No	96	26	

A



B

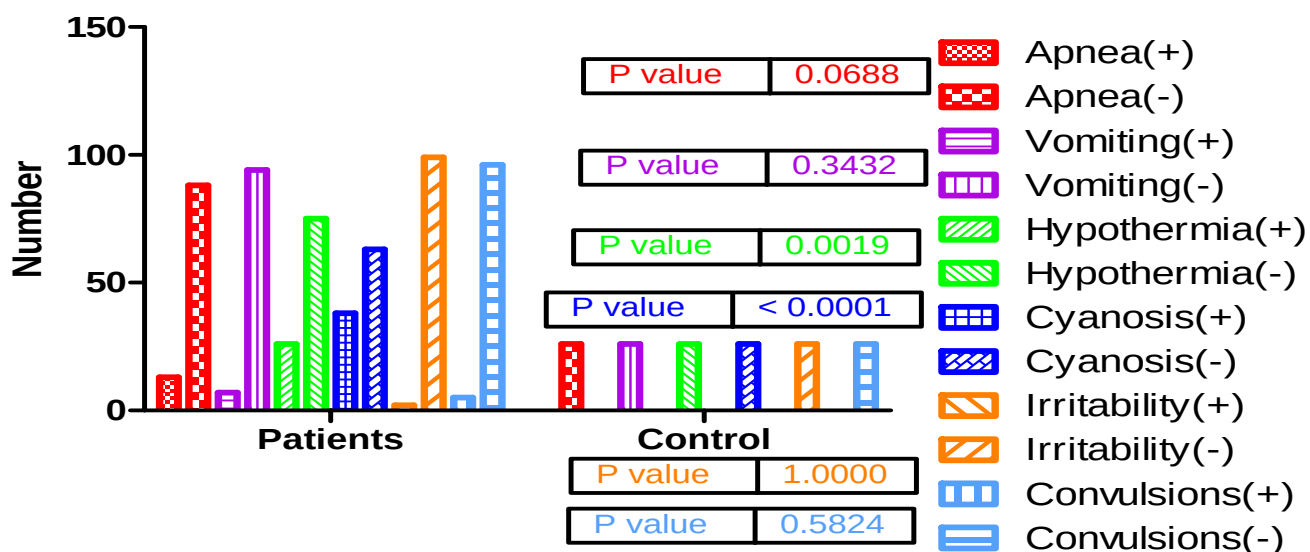


Figure (7; A-B): Clinical profile of neonatal sepsis in neonatal sepsis newborns and control.

Table (10): Neonatal sepsis type according to gestational age

Sepsis type Gestational age	Early onset (%)	Late onset (%)
Term	27 (26.7%)	23 (22.8%)
Preterm	16 (15.8%)	35 (34.7%)
Total	43 (42.5%)	58 (57.5%)

Table (11): Neonatal sepsis type in both sex according to gestational age

sex Gestational age Sepsis type	Male		Female		Total (=101)
	Preterm	Term	Preterm	Term	
EOS	9	21	7	6	43
LOS	21	17	14	6	58

Table (12): Birth weight according to sex

Sex Birth weight	Male	Female	Total (=51)
VLBW	6	5	11
LBW	25	15	40

Table (13): Birth weight in both sex according to gestational age

sex	Male		Female		Total (=51)
Gestational age	Preterm	Term	Preterm	Term	
Birth weight					
VLBW	5	1	5	0	11
LBW	18	7	13	2	40

B- Blood culture positive neonatal sepsis patients

Table (14): Risk factors in blood culture positive neonatal sepsis patients

Parameter	Variable	Cases (n=23)	Control (n=26)	Statistical significance
Maternal age	<20	1	3	P= 0.6119 Or 0.511
	≥ 20	22	23	
Educational status	Illiterate	12	9	P=0.257 Or 0.687
	Literate or more	11	17	
Socioeconomic status	Poor	9	1	P= 0.0034 Or 2.507
	Moderate or more	14	25	
Parity	Primi	5	5	P=1 Or 1.083
	Multi	18	21	
Mode of delivery	Vaginal	8	9	P=1 Or 1.004
	LSCS/Instrumental	15	17	
PROM	Yes	7	0	P= 0.0029 Or 2.625
	No	16	26	
Maternal fever	Yes	3	0	P= 0.0961 Or 2.3
	No	20	26	
PIH	Yes	4	2	P=0.4 Or 1.509
	No	19	24	
PET/Eclampsia	Yes	2	1	P=0.594 Or 1.46
	No	21	25	
Maternal chr.dis.& medications	Yes	4	1	P= 0.1729 Or 1.85
	No	19	25	
Gestation age	Preterm	8	5	P= 0.332 Or 1.477
	Full term	15	21	
Birth weight	<2.5	7	7	P= 1 Or 1.094
	≥ 2.5	16	19	
mean± SD (Grams)		2757±758.5	2895±631.9	P= 0.4945
Apgar score (1 minute)	<7	10	9	P=0.5688 Or 1.215
	≥ 7	13	17	
Sex	Male	15	10	P= 0.0877 Or 1.8
	Female	8	16	
Birth asphyxia	Yes	2	0	P= 0.2151 Or 2.238
	No	21	26	
Complications during labour	Yes	3	1	P= 0.3297 Or 1.688
	No	20	25	
Sepsis score Mean± SD		4.348±2.288	1.5±0.9487	P= <0.0001

Table (15): Neonatal sepsis score in neonatal sepsis patients with positive blood culture (clinically diagnosed)

Score	No of patients	Percent
1	4	17.5%
2	1	4.3%
3	4	17.5%
4	3	13%
5	3	13%
6	3	13%
7	3	13%
8	2	8.7%
Total	23	

Table (16): Neonatal sepsis cases with positive blood culture in both sex

Sex Culture (Total)	Male	Female
Gram positive (= 13)	9	4
Gram negative (= 10)	6	4
Total (%) (= 23)	15 (65.2%)	8 (34.8%)

Table (17): Isolated gram positive and gram negative bacteria in blood culture positive cases

Organism	Number (%)
Gram positive	
Staphylococcus aureus	8 (34.8%)
Streptococcus spp	5 (21.7%)
Gram negative	
Escherichia coli	4 (17.5%)
Enterobacter species	1 (4.3%)
Klebsiella pneumoniae	5 (21.7%)

Table (18): Neonatal sepsis cases with positive blood culture in both sex according to gestational age

sex	Male		Female	
Gestational age Culture (Total)	Preterm	Full term	Preterm	Full term
Gram positive (13)	2	7	2	2
Gram negative (10)	2	4	2	2
Total (%) (= 23)	4 (17.5%)	11 (47.5%)	4 (17.5%)	4 (17.5%)

Table (19): Neonatal sepsis type in both sex according to gestational age in blood culture positive patients

sex	Male		Female		Total (%) (=23)
Gestational age	Preterm	Full term	Preterm	Full term	
Sepsis type					
Early onset sepsis	1	7	1	1	10 (43.5%)
Late onset sepsis	3	4	3	3	13 (56.5%)

Table (20): Clinical profile of patients with positive blood culture

parameter	Variable	Cases (n=23)	Control (n=26)	Statistical significance
Respiratory distress	Yes No	16 7	4 22	P= 0.0002
Lethargy	Yes No	21 2	4 22	P=<0.0001
jaundice	Yes No	21 2	23 3	P= 1
fever	Yes No	4 19	0 26	P= 0.0418
Poor feeding	Yes No	18 5	5 20	P= 0.0002
apnea	Yes No	1 22	0 26	P= 0.469
Vomiting	Yes No	6 17	0 26	P= 0.0072
Hypothermia	Yes No	2 21	0 26	P= 0.2151
Abdominal distension	Yes No	10 13	1 25	P= 0.0013
Cyanosis	Yes No	6 17	0 26	P= 0.0072
Irritability	Yes No	1 22	0 26	P= 0.4694
Convulsions	Yes No	4 19	0 26	P= 0.0418