Results

Table (2) distribution of studied groups according to sex and residence.

St. group / Socio Demographic character		Cases (n =40) No	%	Control No	%	Total No	%	x 2 adjust	p
sex	males	18	45.0	4	40.0	22	44.0	0.05	>0.05
	females	22	55.0	6	60.0	28	56.0		
residence	rural	13	32.5	6	60.0	19	38.0	1.53	>0.05
	urban	27	67.5	4	40.0	31	62.0		

mean± SD of age *14.45 ± 5.9* *14 .5 ± 6.11*

T = -0.02

P> 0.05

This table illustrates that, there is no statistically significant difference between male and female as regard to sex. And also there is no statistically significant difference between rural and urban as regard to residence.

Table (3) Mean ± SD of temperature among the studied groups.

S No	Temperature (C°) / St. group	Mean ± SD	t	p
1	Total cases (n =40)	39.6 (± 0.4)C°	t1= 44.44	<0.001
2	+ ve blood culture (n =15)	39.7(± 0.3) C°	t 2 = 33.08	<0.001
3	- ve blood culture (n = 25)	39.6 (± 0.4) C°	t3 = 32.25	<0.001
4	Control group (n = 10)	37.0(± 0.0) C°	t4 = 0.9	> 0.05

F= 284.99 P<0.001 .

T1 = group 1 versus group 4

T2 = group 2 versus group 4

T3 = group 3 versus group 4

T4 = group 2 versus group 3

This table illustrates that the mean and standard deviation (SD)of temperature was (39.6 ± 0.4 c°) , (39.7 ± 0.3 c°) and (39. 6 ± 0.4 c°) for total cases, +ve blood culture and –ve blood culture cases respectively and (37.0 ± 0.0 c°) for control group so the temperature level was significantly higher in total cases, +ve blood culture and –ve blood culture cases compared to control group but there is no significant difference in between the febrile groups.

Table (4)Hemoglobin concentration among the studied groups.

No	Hemoglobin (g/dL) / St. group	mean (± SD)	t	p
1	Total cases (n =40)	11.21(±1.4) g/dL	t1= -1.25	> 0.05
2	+ve blood culture (n =15)	11.45 (± 1.6) g/dL	t 2 = -0.4	> 0.05
3	- ve blood culture (n = 25)	11.06 (± 1.3) g/dL	t3 = -1.53	> 0.05
4	Control group (n = 10)	11.71 (± 1.05) g/dL	t4 = -0.8	> 0.05

F= 0. 91 P> 0.05

The mean and standard deviation (SD) of HB concentration in the studied groups are (11.21 ± 1.4g/dL),(11.45 ± 1.6 g/dL) and (11.06 ± 1.3 g/dL) for total cases, +ve blood culture and –ve blood culture cases and (11.71 ± 1.05 g/dL) in control group respectively. There is no significant difference between febrile groups themselves or between febrile groups in contrast to control group.

Table (5) Mean ± SD of Total leuckocytic count (TLC) among the studied groups.

S No	TLC ($\times 10^9/L$) / St. group	Mean±(SD)	t	p
1	Total cases (n =40)	10.977(±4.995)$\times 10^9/L$	T1= 3.09	< 0.01
2	+ve blood culture (n =15)	11.233 (± 4.964)$\times 10^9/L$	T 2 = 2.6	< 0.05
3	- ve blood culture (n = 25)	10.824 (± 5.109)$\times 10^9/L$	T3 = 2.66	< 0.01
4	Control group (n = 10)	6.905 ± (3.342)$\times 10^9/L$	T4 = 0.25	> 0.05

F= 2.94

P> 0.05

This table illustrates that the mean and standard deviation (SD) of TLC was(10.977±4.995 ×10^9/L) , (11.233 ± 4.964×10^9/L) and (10.824 ± 5.109×10^9/L) for total cases, +ve blood culture and –ve blood culture cases respectively and (6.905 ± 3.342×10^9/L) for control group. The TLC count show no significant difference between febrile groups themselves and also there is no significant difference between febrile groups in contrast to control group.

Table (6)Mean ± SD of lymphocytes and Monocytes among the studied groups.

S No	Lymphocytes & monocytes / St. group	Mean(± SD)		t		p	
		Lymphocytes	Monocytes	Lymphocytes	Monocytes	Lymphocytes	Monocytes
1	Total cases (n =40)	43.15(± 16.6)	1.05 (± 1.01)	t1= 2.89	t1= 1.15	< 0.01	> 0.05
2	+ve blood culture (n =15)	44.8 (± 19.3)	1.07)± 1.03)	t 2 = 2.04	t 2 = 0.98	< 0.05	> 0.05
3	- ve blood culture (n = 25)	42.2 (± 15.1)	1.04 (± 1.02)	t3 = 2.33	t3 = 1.03	< 0.05	> 0.05
4	Control group (n = 10)	34.0(± 5.6)	0.7(± 0.8)	t4 = 0.45	t4 = 0.09	> 0.05	> 0.05

F (Lymphocytes) =1.58 *F (monocytes)= 0.51*

P >0.05.

This table illustrates that the mean and standard deviation (SD) of lymphocytes was (43.15.5± 16.6) , (44.8 ± 19.3) and (42.2 ± 15.1) for total cases, +ve blood culture and –ve blood culture cases respectively and (34.0 ± 5.6) for control group. And that of monocytes was (1.05 ± 1.01) , (1.07 ± 1.03) and (1.04 ± 1.02) for total cases, +ve blood culture and –ve blood culture cases respectively and (0.7 ± 0.8) for control group.The lymphocyte and Monocytes count show no significant difference between febrile groups themselves and also there is no significant difference between febrile groups in contrast to control group.

Table (7)Mean ± SD of neutrophil differential count among the studied groups.

S No	nutrophil / St. group	mean(± SD)	t	p
1	Total cases (n =40)	52.8(± 16.5)	t1= - 3.31	< 0.01
2	+ve blood culture (n =15)	50 (± 18.99)	t 2 = - 2.53	< 0.05
3	- ve blood culture (n = 25)	54.5(± 14.98)	t3 = -2.51	< 0.05
4	Control group (n = 10)	63.2 (± 5.5)	t4 = - 0.78	> 0.05

F = 2.31

P > 0.05

This table illustrates that the mean and standard deviation (SD) of nutrophil was (52.8± 16.5) , (50 ± 18.99) and (54.5 ± 14.98) for total cases, +ve blood culture and –ve blood culture cases respectively and (63.2 ± 5.5) for control group. The nutrophil count show no significant difference between febrile groups themselves and also there is no significant difference between febrile groups in contrast to control group. F = 2.31 P >0.05.

Table (8) Mean ± SD of basophiles and Eosinophil differential count among the studied groups.

No	Basophile& Eosinophil / St. group	Mean(± SD)		t		p	
		Basophil	Eosinophil	Basophil	Eosinophil	Basophil	Eosinophil
1	Total cases (n =40)	0.68 (± 0.94)	1.28 (± 0.99)	t 1= 2.46	t 1= 0.75	< 0.05	> 0.05
2	+ ve blood culture (n =15)	0.93 (± 1.2)	1.67(± 1.05)	t 2 = 2.18	t 2 = 1.55	< 0.05	> 0.05
3	- ve blood culture (n = 25)	0.52 (± 0.77)	1.04(± 0.9)	t 3 = 1.61	t 3 = 0.11	< 0.05	> 0.05
4	Control group (n = 10)	0.2 (± 0.4)	1.0 (± 1.05)	t 4 = 1.18	t 4 = 1.94	> 0.05	> 0.05

F (Basophil) = 2.3 F (Eosinophil) =0.51

P > 0.05 .

This table illustrates that the mean and standard deviation (SD) of basophiles was (0.68 ± 0.94), (0.93 ± 1.2) and (0.52 ± 0.77) for total cases, +ve blood culture and –ve blood culture cases respectively and (0.2 ± 0.4) for control group. And that of Eosinophil was (12.8 ± 0.99) , (1.67 ± 1.05) and (1.0 ± 1.05) for total cases, +ve blood culture and –ve blood culture cases respectively and (1.0 ± 1.05) for control group.

The basophile and Eosinophil count show no significant difference between febrile groups themselves and also there is no significant difference between febrile groups in contrast to control group.

Table (9) Mean ± SD of differential band count among the studied group .

No	Band / St. group	mean(± SD)	t	p
1	Total cases (n =40)	1.1 (±1.17)	t 1= 0.74	> 0.05
2	+ve blood culture (n =15)	1.2 (± 1.2)	t 2 = 0.84	> 0.05
3	- ve blood culture (n = 25)	1.4 (± 1.2)	t 3 =0.56	> 0.05
4	Control group (n = 10)	0.8 (± 1.1)	t 4 = 0.41	> 0.05

F = 0.35

P > 0.05

This table illustrates that the mean and standard deviation (SD) of band cell was (1.1±1.17), (1.2±1.2) and (1.4 ± 1.2) for total cases, +ve blood culture and –ve blood culture cases and (0.8 ± 1.1) for control group respectively. The band count was not significantly higher in febrile groups compared to control group and there is no significant difference between febrile groups.

Table (10) Mean ± SD of platelets among the studied groups .

No	Platelets ($\times 10^9/L$) / St. group	mean{± SD}	t	p
1	Total cases (n =40)	$273.9 \pm 87.8 \times 10^9$	T1= -0.51	> 0.05
2	+ve blood culture (n =15)	$299.3 (\pm 77.9) \times 10^9/L$	T 2 = 0.42	> 0.05
3	- ve blood culture (n = 25)	$258.6 (\pm 91.4) \times 10^9/L$	T3 = 1.08	> 0.05
4	Control group (n = 10)	$287.5 (\pm 62.1) \times 10^9/L$	T4 = 1.5	> 0.05

F= 1.25

P > 0.05

This table illustrates that the mean and standard deviation (SD) of platelets was (273.9 ± 87.8) $\times 10^9/L$*, (299.3 ± 77.9)* $\times 10^9/L$ *and (258.6 ± 91.4)* $\times 10^9/L$ *for total cases, +ve blood culture and –ve blood culture cases respectively and (287.5 ± 62.1)* $\times 10^9/L$ *for control group. The platelet count show no significant difference between febrile groups themselves and also there is no significant difference between febrile groups in contrast to control group.*

Table (11) Mean ± SD of CRP among the studied groups.

S . No.	C.R.P mg/dL / St. group	mean {± SD}	t	p
1	Total cases (n =40)	17.1 (±16.17) mg/dL	T1= 6.28	< 0.001
2	+ve blood culture (n =15)	18.4 (± 17.3) mg/dL	T 2 = 3.94	< 0.001
3	- ve blood culture (n = 25)	16.32(± 15.7) mg/dL	T3 =4.91	< 0.001
4	Control group (n = 10)	0.6 (± 1.9) mg/dL	T4 = 0.38	> 0.05

F = 5.12

P < 0.001

This table illustrated that the mean (x) and standard deviation (SD)of CRP was (17.1± 16.17) mg/dL, (18.4 ± 17.3) mg/dL and (16.32 ± 15.7) mg/dL for total cases, + ve blood culture and –ve blood culture cases respectively and (0.6± 1.90) mg/dL for control group so the CRP level was significantly higher in total cases, +ve blood culture and – ve blood culture cases comparative to control group but there is no significant difference in between the febrile groups. F= 5.12 and P <0.001 .

Table (12) Types and number of organisms in culture +ve cases .

Gram stain	Organisms	No.	%
1)gram +ve organisms	Staphylococcus aureus	6	40%
2)gram -ve organisms	Klebsiela	3	20%
	Proteus	2	13.30%
	Enterobacter	2	13.30%
	E.coli	1	6.66%
	Serretia	1	6.66%

This table shows that 40% of isolates organisms were staphylococcus aureus and 20% 0f isolated organisms were Klebsiela followed by proteus and enterobacter as each of which constitute 13.30% followed by E.coli and serretia as each of which constitute 6.66%.

Table (13) Mean ± SD of procalcitonin according to type of organisms .

organism	No	mean(±SD)	t	p
Gram +ve	6	13.78 ± 12.7	0.05	>0.05
Gram _ ve	9	14.1 ± 13.7		

This table reveals that the mean and standard deviation (SD) of procalcitonin among gram –ve organisms cases is higher than that among gram +ve organism cases which is (14.1 ± 13.7), (3.78 ± 12.7) respectively. This difference is statistically insignificant.

Table (14)Mean ± SD of procalcitonin among the studied groups.

S No	procalcitonin / St. group	mean (±SD)	t	p
1	Total cases (n =40)	4.38(± 5.83)	t1= 4.38	<0.001
2	+ve blood culture (n =15)	9.82(± 6.62)	t 2 = 5.54	<0.001
3	- ve blood culture (n = 25)	1.12 (± 0.3)	t3 = 6.49	<0.001
4	Control group (n = 10)	0.32 (± 0.34)	t4 = 5.08	<0.001

F = 32.03

P<0.001

This table illustrates that the mean and standard deviation (SD)of procalcitonin was (4.38 ± 5.83) , (9.82 ± 6.62) and (1.12 ± 0.3) for total cases, +ve blood culture and –ve blood culture cases respectively and (0.32 ± 0.34) for control group so the procalcitonin level was significantly higher in total cases, +ve blood culture and –ve blood culture cases compared to control group and also there is significant difference between the febrile groups themselves as the culture +ve cases were significantly higher compared to culture –ve cases .

Table (15) Correlation of procalcitonin with different variation among cases . (n = 40) .

procalcitonin / variable	R	p
age	0.23496	< 0.05*
temperature	0.04438	> 0.05
Duration of fever	-0.1978	> 0.05
HB	0.05747	> 0.05
platelets	0.21538	> 0.05
TLC	0.14299	> 0.05
nutrophil	0.12284	> 0.05
lymphocytes	-0.11186	> 0.05
Esinophil	0.18223	> 0.05
monocytes	-0.13114	> 0.05
basophiles	0.00758	> 0.05
band	-0.21542	> 0.05
CRP	0.05695	> 0.05
	±0.26406	

This table reveals that there is significant correlation between procalcitonin level and age .With other variables, there is no correlation

Table (16) Correlation of procalcitonin with different variation among control (n = 10).

procalcitonin / variable	R	p
age	0.42847	> 0.05
temperature	-------	-------
Duration of fever	-------	-------
HB	0.1211	> 0.05
platelets	-0.16623	> 0.05
TLC	0.07623	> 0.05
nutrophil	-0.1148	> 0.05
lymphocytes	--------	-------
Esinophil	0.03107	> 0.05
monocytes	-0.33414	> 0.05
basophiles	0.66797	< 0.05 *
band	0.58847	< 0.05 *
CRP	0.91134	< 0.05 *
	±0.5524	

This table reveals that there is significant correlation between procalcitonin level and CRP, basophill differential count, and band count. With other variables, there is no correlation

Table (17) Correlation of procalcitonin with different variation among + ve blood culture. (n = 15).

Procalcitonin / variable	R (correlation coefficient)	p
age	0.48078	< 0.05 *
temperature	-0.13717	> 0.05
Duration of fever	0.07164	> 0.05
HB	0.09397	> 0.05
platelets	0.10414	> 0.05
TLC	0.27624	> 0.05
nutrophil	0.0.45791	< 0.05 *
lymphocytes	-0.34413	> 0.05
Esinophil	-0.10820	> 0.05
monocytes	-0.31555	> 0.05
basophiles	-0.34942	> 0.05
band	-0.63662	< 0.01 *
CRP	-0.01709	> 0.05
	±0.44218	

This table reveals that there is significant correlation between procalcitonin level and age, nutrophil differential count, and band count.Witjh other variables, there is no correlation.

Table (18) Correlation of procalcitonin with different variation among – ve blood culture group (n =25).

procalcitonin / variable	R	p
age	0.4435	< 0.05
temperature	0.39227	< 0.05
Duration of fever	-0.27375	> 0.05
HB	0.14773	> 0.05
platelets	0.34206	< 0.05*
TLC	0.05055	> 0.05
nutrophil	0.1825	> 0.05
lymphocytes	-0.19686	> 0.05
Esinophil	0.04316	> 0.05
monocytes	-0.2848	> 0.05
basophiles	0.41618	< 0.05*
band	0.09119	> 0.05
CRP	0.10658	> 0.05
	±0.33705	

This table reveals that there is significant correlation between procalcitonin level and basophill differential count, and platelets count. With other variables, there is no correlation

Table (19) sensitivity and specificity of CRP .

CRP	Blood culture		Total	
	-ve	+ve	No	%
- ve	1	5	6	15.0
+ ve	24	10	34	85.0
total	25	15	40	100

This table shows the CRP as a test for diagnosing occult bacteremia it reveals that :-

- *Sensitivity = 66.7%*
- *Specificity = 4%*
- *Predictive value for +ve = 29.4%*
- *Predictive value for –ve =16.7%*

Table (20) sensitivity and specificity of procalcitonin.

procalcitonin	Blood culture		Total	
	-ve	+ve	No	%
- ve	24	1	25	70.0
+ ve	1	14	15	30.0
total	25	15	40	100.0

This table shows the procalcitonin as a test for diagnosing occult bacteremia it reveals that :-

- *Sensitivity = 93.3%*
- *Specificity = 96%*
- *Predictive value for +ve = 93.3%*
- *Predictive value for –ve =96%*

Table (21) comparison between CRP and procalcitonin according to sensitivity, specificity, +ve predictive value and –ve predictive value.

S No	Value of diagnosis of bacteremia / Test	sensitivity	specificity	+ ve predictive value	- ve predictive value
1	CRP	66.7%	4%	29.4%	16.7
2	Procalcitonin	93.3%	96%	93.3%	96%

This table shows that the procalcitonin has the highest sensitivity , specificity +ve predictive value and -ve predictive value comparative to other tests.