

Table (1): Demographic data of the studied groups.

Variable	Item	Group A VAP (N = 38) (27.2%)	Group B Non-VAP (N = 102) (72.8%)	t	P- value
Gestational age (weeks)	Full term(37-41)	11(28.9%)	16(15.6%)	.019	< 0.05
	Late preterm(33-36)	12(31.5%)	32(31.3%)		NS
	Preterm(28-32)	15(39.5%)	52(50.9%)		< 0.05
	Post term(\geq 42)	0	2(1.96%)		NS
Sex	Male	25(65.7%)	72(70.5%)	0.1	NS
	Female	13(34.2%)	30(29.5%)		NS
Birth weight (gm.)	Normal (2500-3999 gm.)	12(31.5%)	28(27.4%)	1.2	NS
	LBW(<2500 gm)	15(39.4%)	68(84.3%)		< 0.05
	VLBW(<1500gm)	11(28.9%)	6(5.88%)		< 0.001
Maternal condition	No Risk	16(42.1%)	44(43.1%)	.014	NS
	PROM	8(21%)	20(19.6%)		NS
	Gestational DM	4(10.5%)	12(11.7%)		NS
	Pre-clampsia	4(10.5%)	10(9.8%)		NS
	Multiple gestation	6(15.7%)	16(15.5)		NS
Type of delivery	VD	4(10%)	6 (5%)	0.5	NS
	CS	34(90%)	96(95%)		NS

NICU; Neonatal intensive care unit, VAP; ventilator-associated pneumonia, VLBW ; Very Low Birth Weight, LBW; PROM , Premature Rupture Of Membranes ;DM,, Diabetes Mellitus ;VD, Vaginal Delivery ; CS ,Caesarean Section; Low Birth Weight. $P \geq 0.05$, NS; $P < 0.05$, significant difference; $P < 0.001$, highly significant.

Table (2): Comparison between clinical and radiological findings in the studied cases

Variables	Item	Group A	Group B	P value
		VAP (n=38) N&%	Non VAP (n=102) N&%	
Temperature	▪ Normal	4(10.5%)	54(52.9%)	< 0.001
	▪ Hypothermia	18(47.3%)	36(35.2%)	< 0.05
	▪ Hyperthermia	14(36.8%)	12(11.7%)	< 0.05
	▪ Fluctuation of Temp	28(73.6%)	44(43.1%)	< 0.001
RR	▪ Normal	0	28(27.4%)	< 0.05
	▪ Tachypnea	30(78.9%)	58 (56.8%)	< 0.05
	▪ Apnea	8(21.1%)	16(15.6%)	< 0.05
Heart rate	▪ Normal	8(21%)	74(72.5%)	<0.001
	▪ Tachycardia	18(47.3%)	8(7.8%)	<0.05
	▪ Bradycardia	12(31.5%)	20(19.6%)	<0.05
Skin	▪ Pallor	10(26.3%)	15(15.7%)	< 0.05
	▪ Ecchymosis	7(18.4%)	10(10.5%)	NS
	▪ Jaundice	10(26.3%)	31(31.5%)	< 0.05
	▪ Cyanosis	14(36.8%)	6(7.8%)	< 0.05
Respiratory system	▪ Worsen act of breathing	28(73.6%)	10(10.5%)	< 0.001
	▪ Auscultatory chest finding	32(84.2%)	34(36.8%)	< 0.05
	▪ Change of character of sputum	28(73.6%)	20(21%)	< 0.001
	▪ Increase respiratory secretion	36(94.7%)	10(10.5%)	< 0.001
Mechanical ventilation setting(MV)	▪ Increase oxygen required	38(100%)	22(21.5%)	<0.001
	▪ Increase ventilation demand	28(75%)	18(17.6%)	<0.001
Radiological finding	▪ Progression of infiltration	28(73.6%)	0	<0.001
	▪ Consolidation	10(26.3%)	0	<0.001

VAP, ventilator-associated pneumonia; MV, mechanical ventilation ;RR ,Respiratory Rate;, $P \geq 0.05$, NS; $P < 0.05$, significant difference; $P < 0.001$, highly significant. TLC (total leucocytic count), CRP(C reactive protein), and PaCO₂(Partial pressure of arterial carbon dioxide)

Table (3): Comparison between the laboratory findings in the studied cases

Variables	Group A VAP (N = 38)	Group B Non- VAP(N = 102)	t	P value
Capillary BG [mean ± SD] <ul style="list-style-type: none">• PaCO₂ (mmHg)	51.2±9.6	43.8±10.6	2.68	< 0.05
CBC <ul style="list-style-type: none">• HB (g%) [mean ±SD]• TLC [mean ± SD]• PLT [mean ± SD]	12.3±2.3 19.2±6.2 249.5±170.3	14.6±2.9 12.4±4.2 201.5±150.2	-2.6 3.3 1.3	NS < 0.001 < 0.001
CRP <ul style="list-style-type: none">• [mean ± SD]• Positive result	54.5±40.47 32(84.2)	28.0 ± 41.92 14(13.7)	1.18 19.4	< 0.05 < 0.05

VAP, ventilator-associated pneumonia; MV, mechanical ventilation ;RR ,Respiratory Rate;, $P \geq 0.05$, NS; $P < 0.05$, significant difference; $P < 0.001$, highly significant.; TLC (total leucocytic count), CRP: (C-reactive protein), and PaCO₂ (Partial pressure of arterial carbon dioxide)

Table (4): Risk factors among the studied groups.

Variables	Group A VAP	Group B Non-VAP	P value
Invasive procedure: after MV			
▪ Central Venus line	16(42.1%)	28(27.4%)	< 0.05
▪ Peripheral line	26(57.8%)	78(76.4%)	NS
▪ Reintubation	22(57.8%)	16(15.6%)	< 0.001
Medication:			
▪ Surfactant	4(10.5%)	16(15.6%)	NS
▪ TPN	32(84.2%)	88(86.2%)	NS
▪ Sedative use	16(42%)	20(19.6%)	< 0.05
Infection control measures:			
▪ Closed suction	Not done	Not done	NS
▪ Mouth wash	12(31.5%)	40(40%)	NS
▪ Change machine circuit	18(47.3%)	36(35.2%)	NS

MV, mechanical ventilation; NICU, neonatal intensive care unit; RDS, respiratory distress syndrome; VAP, ventilator-associated pneumonia; $P \geq 0.05$, NS; $P < 0.05$, significant difference ; $P < 0.001$, highly significant.

Table (5): Microorganisms isolated from blood cultures and BAL in group A.

Causative organism	No. of cases	Percent %
• No growth	8	21%
• Klebsiella Spp.	12	31.5%
• Staph. Aureus	10	26.3%
• Others Gram negative bacilli	6	15.7%
• Fungi	2	5.2%
• Total	38	100.00
Microorganisms isolated from BAL of the studied cases		
• Klebsiella Spp.	17	42.5%
• Gram negative bacilli	12	30%
• Staph epidermis	9	22.5%
• Fungi	2	5%
• Total	40 episode	100%

Table (6): The outcome in the studied groups.

Variable	Group A VAP	Group B Non VAP	t	P value
Duration of ventilation Mean ±SD(in days)	26.0 ± 11.5	11.1±6.2	7.4	<0.001**
Duration of hospital stay				
• Mean ±SD(in days)	40.3±14.9	21.4±14.2	5.9	< 0.05
• Median (range)	(4- 34)	(2-23)		
In-hospital Survival (%)	13(34.2%)	76(74.5%)	-1.2	< 0.001
In-hospital mortality (%)	25(65.7%)	26(25.5%)	6.5	<0.001**