OP-144 LONG-TERM NEURODEVELOPMENTAL EFFECTS OF EXCLUSIVELY HIGH CORD LACTATE LEVELS IN TERM NEW-BORN

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Aim This study was conducted to evaluate the effect of cord arterial blood gas analysis (ABGA) lactate level on long-term neurodevelopment of new-borns without any clinical signs of perinatal asphyxia

Material and Method Cases with a 5-minute Apgar score <7, sign of fetal distress in their antenatal follow-up were excluded. The cases (n=1438) were divided into two groups those with high cord lactate level (above 5 mmol/L, n=92) and those with low lactate level (below 2 mmol/L, n=255). An Ages & Stages Questionnaire, Third Edition (ASQ-3) developmental screening questionnaire was sent to all parents. Patients with a chronological age between 24–42 months and for whom the questionnaire was fulfilled by the parents (low lactate group, n=29, and high lactate group, n=45) were evaluated.

Results No difference was observed between two groups in terms of demographic characteristics such as age (p=0.1669), male gender (p=0.906), mother's working situation (p=0.948), mother's education level (p =0.828), father's education level (p=0.507), and family's total income (p=0.642). Mean ACQ-3 developmental screening test scores were significantly lower in the high lactate group compared to the low lactate group concerning; fine motor (40 vs. 60, p=0.001), problem-solving (50 vs. 60, p=0.002) and personal social development (45 vs. 60, p=0.003) (table 1). No difference was observed in terms of communication and gross motor total scores.

Abstract OP-144 Table 1 Comparison of the group with low and high umbilical cord lactate levels with an ACQ-3 development test

Comparison of the group with low and high umbilical cord lactate levels with an ACQ-3 development test

	Lactate >5 mmol/L (n:29)	Lactate <2 mmol/L (n:45)	*P*-Value
Communication	55 (42.5-60)*	60 (50-60)*	0.173[1]
Gross motor	60 (47.5-60)*	60 (55-60)*	0.580[1]
Fine motor	40 (15-55)*	60 (35-60)*	**0.001**[1]
Problem-solving	50 (40-60)*	60 (55-60)*	**0.002**[1]
Personal-social	45 (40-55)*	60 (45-60)*	**0.003**[1]

Scores of ACQ-3 (%), [1]: Mann Whitney U Test

Conclusions We observed that cases with a normal 5-minute Apgar score, no suspected perinatal asphyxia, and a cord lactate value of ≥5 fell behind their peers when evaluated with the ACQ-3 developmental screening questionnaire.

OP-145 EVALUATION OF THE EFFICACY OF C-REACTIVE PROTEIN AND PROCALCITONIN INTERMITTENT MONITORING IN THE DIFFERENTIAL DIAGNOSIS OF POSSIBLE EARLY-ONSET SEPSIS IN MECONIUM-STAINED FULL-TERM INFANTS

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Aim Meconium-stained amniotic fluid (MSAF) is seen in approximately 13% of all deliveries and may complicate the differential diagnosis of early-onset sepsis (EOS). This study aimed to evaluate the effect of intermittent monitoring of C-reactive protein (CRP) and Procalcitonin (PCT), in the differential diagnosis between infants with unlikely sepsis and possible sepsis of newborns with MSAF.

Material and Method In this prospective cohort study, full-term infants with MSAF born between January 1, 2021, and December 31, 2021, in our university hospital were evaluated and their CRP and PCT levels were monitored at the postnatal 6th, 24th, and 48th-hours.

Results Of the 65 patients evaluated, 18 (27.6%) were classified in the group of possible sepsis and 47 (72.4%) in the group of unlikely sepsis exclusively according to their clinical signs. 78% (14/18) of the cases with possible EOS were born by cesarean section (p=0.025). In the univariate analysis, CRP (>15 mg/L, p<0.001) and PCT values (>2 ng/ml, p=0.010) at the postnatal 24th-hour screening, and CRP value (>15 mg/L, p: 0.020) at the postnatal 48th-hour screening were found to be the significant factors in the differential diagnosis of possible sepsis and unlikely sepsis. In the multivariate analysis, only CRP at the postnatal 24th-hour was found to be associated with the possible EOS (p=0.001), and the 24th-hour CRP value above 18.8 mg/L had the highest accuracy (sensitivity and specificity 83% and 85%, respectively) (table 1).

Abstract OP-145 Table 1 The discriminative power of biomarkers for possible sepsis

The Discriminative Power of Biomarkers for Possible Sepsis

Parameters	Hours	Cut-off Levels	Sensitivity	Specificity	LR+	LR-	PPV	NPV	Accuracy	AUC	*p*-value
CRP	6°	0.10	100.00	10.64	1.1	0.0	30.0	100	35.4		
		0.45	77.78	74.47	3.0	0.3	53.8	89.7	75.4		
		5.00	16.67	95.74	3.9	0.9	60.0	75.0	73.8	77.0	**<0.001**
		10.00	5.56	95.74	1.3	1.0	33.3	72.6	70.8		
		15.00	5.56	97.87	2.6	1.0	50.0	73.0	72.3		
	24°	5.00	94.44	63.83	2.6	0.1	50.0	96.8	72.3		
		10.00	88.89	72.34	3.2	0.2	55.2	94.4	76.9		
		15.00	83.33	76.60	3.6	0.2	57.7	92.3	78.5		
		18.88	83.33	85.11	5.6	0.2	68.2	93.0	84.6	88.9	**<0.001**
		41.45	33.33	100.00	Inf	0.7	100	79.7	81.5		
	48°	1.48	100.00	22.58	1.3	0.0	33.3	100	44.2		
		5.00	83.33	51.61	1.7	0.3	40.0	88.9	60.5		
		10.00	58.33	70.97	2.0	0.6	43.8	81.5	67.4		
		13.85	58.33	90.32	6.0	0.5	70.0	84.8	81.4	77.8	**0.005**
		15.00	50.00	93.55	7.7	0.5	75.0	82.9	81.4		
		20.55	41.67	100.00	Inf	0.6	100	81.6	83.7		
PCT	6°	0.10	94.44	6.38	1.0	0.9	27.9	75.0	30.8		
		0.52	66.67	70.21	2.2	0.5	46.2	84.6	69.2	64.8	0.068
		2.00	11.11	95.74	2.6	0.9	50.0	73.8	72.3		
	24°	0.41	94.44	30.43	1.4	0.2	34.7	93.3	48.4		
		2.00	55.56	84.78	3.7	0.5	58.8	83.0	76.6	72.5	**0.005**
		9.20	5.56	100.00	Inf	0.9	100	73.0	73.4		
	48°	0.10	100.00	0.00	1.0		27.9		27.9		
		0.60	50.00	67.74	1.5	0.7	37.5	77.8	62.8	49.9	1.000
		2.00	8.33	90.32	0.9	1.0	25.0	71.8	67.4		

Abbreviations: CRP, C-reactive protein; PCT, procalcitonin; LR, linear regression; PPV, positive predictive value; NPV, negative predictive value; AUC, area under curve.

Conclusions In a group of MSAF infants, we have demonstrated the value of intermittent CRP and PCT monitoring in the differential diagnosis of clinically classified unlikely sepsis from possible sepsis, and the highest accuracy, especially if the 24-hour CRP value is above 18.8 mg/L.