M30 (caspases generated CK18 fragment) to predict intrahepatic cholestasis of pregnancy

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Objective

Intrahepatic cholestasis of pregnancy (ICP) is one of the diseases specific to pregnancy period. No exact etiology has been found to date. M30 is a 'caspases generated Cytokeratin (CK)-18 fragment' and a marker for apoptosis. We aimed to determine and compare levels of maternal serum and umbilical venous serum M30 and bring a new perspective to the pathogenesis of intrahepatic cholestasis of pregnancy (ICP).

Methods

Twenty one patients diagnosed with ICP and twenty two patients as a control group were involved in this case control study. The patients' and their umbilical cord venous sera were obtained during the delivery. M30 values were measured with M30 Apoptosense® ELISA kit.

Results

Both groups were similar regarding the distribution of ages (27. 8±5. 1 years [Mean±SD] in the ICP group and 28. 8±5. 9 years in the control group), Body Mass Indices (BMIs) (27. 9±3. 8 kg/m2 in the ICP group and 29. 4±4. 9 kg/m2 in the control group) and birthweights (2956±572 grams in the ICP group and 3240±447 grams in the control group). Maternal serum M30 values were not statistically different between the ICP group (247. 4±115. 5) and the control group (257±130. 6) (P=0. 83). Cord venous serum M30 values of patients with ICP (154± 84. 3 Unit/liter) were significantly higher than levels of control group (115. 3±22. 3 Unit/Liter) (p=0. 016). Maternal serum M30 values were significantly higher than cord venous serum M30 values in both of groups (p<0. 001 and p<0. 001, separately).

Conclusion

Cord venous serum M30 values of the ICP group were significantly higher than the same values in the control group. As an apoptosis marker, M30 value in fetal blood may have a useful diagnostic value for intrahepatic cholestasis of pregnancy. M30 is a promising candidate to shed light on this mysterious disease.

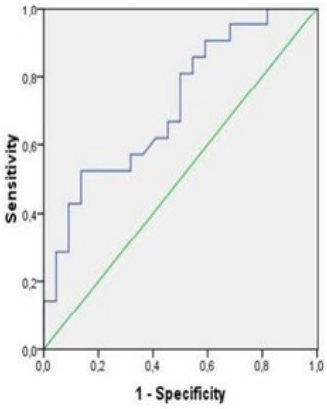

Table 1. Comparation of groups in terms of parameters distributed normally.

Characteristic	Cholestasis Group		Control Group		P value
	Mean, ±SD	Min-Max	Mean, ±SD	Min-Max	
Age	27.8, ±5.1	20-36	28.8, ±5.9	17-38	0.538
BMI (kg/m^2)	27.9, ±3.9	22-34.4	29.4, ±4.9	21.3-39.5	0.285
Gestational Age at Birth (weeks)	36.9, ±2.3	30.6-40.1	39.5, ±1.4	36-42	<0.001
Birthweight (gr)	2956, ±572	1700-3750	3240, ±447	2510-4230	0.076

BMI: Body mass index. SD: Standard deviation.

Table 2. Comparation of groups in terms of parameters distributed abnormally.

Characteristic	Cholestasis Group		Control Group		p value
	Median	Min-Max	Median	Min-Max	
Gravidity	2	1-4	2	1-5	0.127
Parity	1	0-3	1	0-4	0.251
Living Child	1	0-3	1	0-3	0.221
Abortus	0	0-1	0	0-1	0.764
Dilatation/Curettage	0	0-0	0	0-1	0.053
AST	71	14-249	17.2	12.7-36	<0.001
ALT	111	5-510	10.4	3.5-35	<0.001

AST: Aspartate Transaminase; ALT: Alanine Transaminase.