

# Extremely high levels of alkaline phosphatase and pregnancy outcome: case series and review of the literature

Renana Wilkof Segev<sup>1</sup>, Mordechai Hallak<sup>1</sup>, and Rinat Gabbay-Benziv<sup>1</sup>

<sup>1</sup>Hillel Yaffe Medical Center

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## Abstract

Objective: To evaluate the association between extremely elevated alkaline phosphatase (ALKP) levels (above 1000 U/L) and adverse perinatal outcome. Design: A retrospective case series Setting and population: All parturients with extremely elevated ALKP levels taken throughout pregnancy at a single university-affiliated medical center (2010-2018). Methods: Demographics and medical data were retrieved. Following literature review, previously reported similar cases were added to the cohort. We report perinatal outcome of our cohort as well as literature review. Results: During study period 11 parturients with high ALKP were identified. Ten more cases were retrieved from PubMed search. Overall, median ALKP levels were 1880 (range 1052-4488, U/L). Reasons for evaluation were mostly nonspecific symptoms (pruritus, headache, abdominal pain) or routine obstetrical evaluation. Twelve isoenzyme analysis were available - 10 of which were of placental fraction; median gestational age at delivery was 38 (35-41), four (19%) women delivered preterm, ; six patients (29%) had gestational diabetes mellitus and 6 (29%) had hypertensive disorder. Histopathology of the placenta was available in 8 cases: 3 normal histology (38%) and 5 with different non-specific pathologies. Conclusions: We report the largest case series of extremely elevated levels of ALKP in pregnancy thus far. Our data suggest association with adverse perinatal outcome.

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