

# FACTORS ASSOCIATED WITH INFANTILE HEMANGIOMAS IN CHINA

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**Abstract.** Infantile hemangiomas (IH) are the most common benign vascular tumor among infants. The aim of this study was to determine factors significantly associated with IH in order to provide clues to its pathogenesis. The study was a case-control study. All subjects were chosen from patients presenting to Xuzhou Children's Hospital. The study was conducted from May 2017 to May 2018. Subject parents were asked to fill out a questionnaire. None of the medical records of the subjects or parents were reviewed in this study. Factors potentially associated with IH were evaluated first with univariate and then next with multivariate logistic regression analysis. A total of 305 cases and 305 controls were included in the study. The mean age [ $\pm$ standard deviation ( $\pm$ SD)] of cases was 4.3( $\pm$ 2.8) months and of controls was 4.2( $\pm$ 2.9) months. Fourty-four point nine percent of both cases and controls were males. On multivariate logistic regression analysis, factors significantly positively associated with IH were: a gestational age at birth of <37 weeks (OR=3.137; 95% CI: 1.291-7.623;  $p=0.012$ ), maternal history of hypertension (OR=2.267; 95% CI:1.044-4.924;  $p=0.039$ ), placenta previa (OR=5.903; 95% CI: 2.203-15.818;  $p<0.001$ ) and family history of IH (OR=10.852; 95% CI: 3.766-31.272;  $p<0.001$ ). The one factor significantly negatively associated with IH was being a first child (OR=0.664; 95% CI: 0.474-0.932;  $p=0.018$ ). In summary, among our cases, factors positively associated with IH were birth at a gestational age < 37 weeks, maternal history of hypertension, placenta previa and family history of IH; the factor negatively associated with IH was being a first born child. Further studies are needed to find causality and determine the mechanisms for association in order to determine if it is possible to reduce the incidence of IH in the study population.

**Keywords:** infantile hemangioma, vascular tumor, risk factor, case-control study

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