

Title : Association between Maternal Diabetes and Macrosomia at Maharaj Nakorn Chiang Mai Hospital

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ABSTRACT

Gestational diabetes mellitus is a common obstetric complication with an increasing trend, particularly in Thailand, where the incidence is as high as 7-10% of all pregnancies. This condition directly affects fetal growth, especially leading to macrosomia, which increases the risk of complications during delivery for both mother and infant, including shoulder dystocia and neurological injuries in newborns. This study aimed to investigate the association between Maternal Diabetes and Macrosomia at Maharaj Nakorn Chiang Mai Hospital. This retrospective study utilized data from a machine learning-base model to predict large-for-gestational age fetuses. The study sample consisted of 984 cases, including 97 mothers who delivered macrosomia infants and 887 mothers who delivered normal-weight infants, from January 2011 to December 2021. Data were analyzed using multiple logistic regression. Results Risk factors for macrosomia included maternal BMI of 25-29.9 kg/m² (OR = 7.86, P = 0.01) and greater than 30 kg/m² (OR = 15.68, P < 0.01), previous delivery of infants weighing 2,500-4,000 grams (OR = 1.74, P = 0.02) and more than 4,000 grams (OR = 10.90, P < 0.01), and maternal weight gain until the third trimester (OR = 2.33, P < 0.01) The study highlights the importance of weight control both before and during pregnancy, as well

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as special monitoring for mothers with a history of delivering high-birth-weight infants, to prevent complications associated with macrosomia.

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