Title: Case Report of Spontaneous Vaginal Delivery of Infant Born with Acrania/Acalvaria

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Abstract: Acrania/acalvaria is a rare congenital malformation that presents with classical clinical features of a soft lax skull as a result of absent skull bones and associated muscles. Historically, acrania/acalvaria has been challenging to diagnose and sometimes can be misdiagnosed with anencephaly or encephalocele, or left undiagnosed during prenatal ultrasonography. This report describes a case of an infant born with acrania/acalvaria from a 23-year-old G2P1102 female with late prenatal care, poor follow up, diabetes mellitus type 2 with insulin non-compliance, borderline polyhydramnios, elevated blood pressure without preeclampsia, anemia of pregnancy, and group B streprococcal bacteriuria. A second trimester ultrasound reported a normal head, face, gastro-intestinal tract, kidneys and bladder, and an abdominal circumference with marked acceleration, with an amniotic fluid index consistent with borderline polyhydramnios. Bedside transabdominal ultrasound on the day of delivery confirmed cephalic presentation. The infant was born with abnormal skull bones and taken to the neonatal intensive care unit immediately, with subsequent transfer of mother and infant to a higher level of care facility. During hospitalization, the infant was evaluated by pediatric genetics, cranio-facial surgery, ophthalmology and neuro-surgery. The infant was discharged with a diagnosis of partial acrania, micrognathia, and possible cleidocranial dysplasia. This presented case confirms difficulties in diagnosis of acrania/acalvaria and underlines the necessity for appropriate radiologic and ultrasonographic examination for timely diagnosis of the condition, prevention of possible trauma at birth, and reduction of potential morbidity and mortality.