COMMENT ON CHEN ET AL.

Risk of Developing Type 2 Diabetes in Adolescents and Young Adults With Autism Spectrum Disorder: A Nationwide Longitudinal Study. Diabetes Care 2016;39:788–793

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We read with interest the study by Chen et al. (1) investigating the risk of type 2 diabetes mellitus (DM) among adolescents and young adults with autism spectrum disorder (ASD). The authors reported that adolescents and young adults with ASD had a significantly higher risk of developing type 2 DM (2.7- and 5.3-fold, respectively) compared with those without ASD. However, it seems that important confounding factors, including maternal metabolic conditions, were not adjusted for in their statistical analyses.

Among maternal metabolic conditions, DM and obesity are two of the most important variables that may increase ASD risk in offspring. Xiang et al. (2) reported that maternal DM was associated with risk of ASD in offspring, and a recent meta-analysis comprising 3,948 ASD cases and 227,819 participants identified an association between maternal obesity and ASD in offspring (3). It is becoming widely acknowledged that women diagnosed with DM are more likely to have children who develop DM later in life. In addition, higher maternal BMI is also associated with an increased risk for later type 2 DM in offspring (4), in which case genetic factors might play a role and the hazard ratio for developing DM among offspring with ASD could have been overestimated.

Chen et al. (1) mentioned immune dysregulation and proinflammatory cytokine oversecretion, such as high interleukin-1β, interleukin-6, and C-reactive protein in ASD patients, trying to explain the temporal association between ASD and subsequent type 2 DM. However, mothers with DM or high BMI were also observed to have those elevated inflammatory factors (5), and placenta inflammation can induce a systemic fetal inflammatory response that may contribute to proinflammatory cytokine secretions and immune dysregulation in offspring, thereby increasing the risk of developing type 2 DM later in life.

Overall, a potential confounding effect by maternal metabolic conditions, especially DM and obesity, could have resulted in a false-positive association between ASD and type 2 DM risk in this case.

Duality of Interest. No potential conflicts of interest relevant to this article were reported.

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