Elevated levels of steroid hormones in amniotic fluid may contribute to the development of autism, reports a study published in *Molecular Psychiatry*. The findings provide insight into how atypical biological mechanisms during fetal development can affect brain development in autism. However, the authors stress that the findings are not evidence to justify prenatal screening or for treatments that target steroid hormones.

The higher prevalence of autism in males rather than females led to discussions on whether sex steroid hormones, which differ between males and females, are a risk factor for autism during fetal brain development. Previous work had shown that fetal testosterone affects social and language development and autistic traits in typically developing children, but it was unclear whether such hormones were elevated in clinically diagnosed cases of autism.
Simon Baron-Cohen, Michael Lombardo and colleagues measured the levels of five steroid hormones (progesterone, 17α-hydroxy-progesterone, androstenedione, testosterone, and cortisol) in amniotic fluid samples from 128 mothers whose male children were diagnosed as having autism or a related disorder, and 217 controls. The findings show that these steroid hormone levels are, on average, elevated for the group whose male children were later diagnosed on the autism spectrum.

Based on these findings, the authors suggest that autism can be traced back to early fetal development, a critical period for laying down the essential building blocks of the brain. Furthermore, risk factors could include up-regulation of steroid hormone biosynthesis, which influence genetic and other risk mechanisms for autism during early fetal development.

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