■ ENDOCRINE DISRUPTORS

Childhood exposure predicts later adiposity

Exposure to the perfluoroalkylated substance (PFAS) perfluorooctane-sulphonic acid (PFOS) during childhood is associated with adiposity in adolescence and young adulthood, according to a new study. The findings confirm that early exposure to endocrine disrupting chemicals during growth and development poses a risk of later poor health.

"We were curious as to how PFASs might be involved in the increasing pandemic of obesity and diabetes mellitus, as well as closing the evidence gap of how postnatal exposure to PFASs during growth and maturation might be associated with later accumulation of adiposity and glucose metabolism," explains lead investigator Sidsel Domazet. The

team used data and stored plasma samples from the European Youth Heart Study to measure PFOS levels in children at baseline (age 9 years; n=501), as adolescents (age 15 years; n=201) and as young adults (age 21 years; n=202) and correlated these values with indices of adiposity and glucose metabolism.

Childhood exposure to PFOS was associated with increased adiposity at 15 years of age (increased BMI, waist circumference and skinfold thickness) and at 21 years of age (increased waist circumference and skinfold thickness). Exposure during childhood to another PFAS, perfluorooctanoic acid (PFOA), was associated with reduced β -cell function in adolescence. Importantly, later exposure to either PFOS or

PFOA during adolescence was not associated with adiposity or impaired β -cell function in young adulthood.

Domazet and her team are now planning to investigate the effects of prenatal exposure to PFASs on the development of adiposity and glucose metabolism in infancy and early childhood.

David Holmes

ORIGINAL ARTICLE Domazet, S. L. et al. Longitudinal associations of exposure to perfluoroalkylated substances in childhood and adolescence and indicators of adiposity and glucose metabolism 6 and 12 years later: The European Youth Heart Study. Diabetes Care http://dx.doi.org/10.2337/dc16-0269 (2016) FURTHER READING Heindel, J. J. et al. Endocrine disruptors and obesity. Nat. Rev. Endocrinol. 11, 653–661 (2015)