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Bmi, Fasting Blood-glucose and Total-cholesterol Levels in Adults with Intellectual Disabilities or Autism Spectrum Disorder with or Without Epilepsy and Valproic Acid Treatment

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Introduction: Epilepsy is prevalent in people with intellectual disabilities (ID) and autism spectrum disorder (ASD). Valproic acid (VPA) treatment is associated with weight gain, and changes in glucose and lipid metabolism.

Objective: To study the metabolic features of adults with ID and ASD.

Aim: We investigated interactions of body mass index (BMI), fasting blood-glucose (FBG) and total-cholesterol levels with epilepsy and VPA treatment in these populations.

Methods: Medical charts of 77 adults with ID and 80 adults with ASD were reviewed for epilepsy diagnosis, VPA treatment, BMI, FBG and total-cholesterol.

Results: People with epilepsy had lower BMI and FBG than people without epilepsy (BMI: 23.18±5.43 vs. 25.61±5.74 kg/m^2 respectively, F(1,140) =6.64; p=0.011, FBG: 72.53±11.26 vs. 79.98±14.64 mg/dl respectively, F(1,135) =10.46; p=0.002). Furthermore, in the ID group, there were more obese (BMI >30 kg/m^2) adults without epilepsy than adults with epilepsy [11(29.7%) vs. 2(5.7%), respectively, Fisher's exact test: OR=6.981 (95%CI 1.42-34.31); p=0.0125]. In the ASD group, there were more underweight (BMI <18.5 kg/m^2) adults with epilepsy than adults without epilepsy [6(20.7%) vs. 1 (2.5%) respectively, Fisher's exact test: OR=0.192 (95%CI 0.049- 0.76); p=0.0169].

People treated with VPA had lower total-cholesterol levels than untreated people (156.56± 26.13 vs. 172.42±33.82 mg/dl, respectively, F(1,150) =7.44; p=0.007), but did not differ in BMI and FBG.
Conclusions: Adults with ID or ASD and epilepsy had lower BMI and FBG levels than adults with ID or ASD without epilepsy. Surprisingly, adults treated with VPA had unaltered BMI and FBG, and lower total-cholesterol levels than their untreated counterparts.

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