Adipose Tissue, Appetite, and Obesity

INTEGRATED PHYSIOLOGY OF OBESITY AND METABOLIC DISEASE

How Personality and Unpredictability of Resources Impact Binge Eating Symptoms in Normal Weight Subjects: A Path Analysis

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STUDIES ASSESSING SENSITIVITY TO ENVIRONMENTAL STIMULI INDICATE THAT SUBJECTS WITH BINGE EATING DISORDER (BED) ARE MORE PRONE TO REACT TO STRESSFUL SITUATIONS, AND MORE WILLING TO PURSUE IMMEDIATE REWARDS IN COMPARISON TO SUBJECTS WITHOUT BED. UNPREDICTABILITY OF FAMILY RESOURCES RELEVANT TO CHILD DEVELOPMENT INCREASES THE CHANCES OF EXTERNALIZING BEHAVIORS IN CHILDHOOD AND, COUPLED WITH PERSONALITY PROFILES LINKED TO BED, MAY INCREASE THE ODDS OF MANIFESTING BINGE EATING (BE) IN ADULTHOOD. THIS STUDY AIMED TO INVESTIGATE WHETHER PERSONALITY AND UNPREDICTABILITY OF RESOURCES INTERACT TO PREDICT BE SYMPTOMS IN YOUNG ADULTS, EVEN BEFORE THE ONSET OF OBESITY. THE SAMPLE CONSISTED OF 257 ADULTS (AGES 20.73 ± 1.78 YEARS, MEAN ± SD), MOSTLY WHITE (N = 233), UNDERGRADUATES (N = 236), AND WITH A BMI OF 21.84 ± 1.68 KG/M². PERSONALITY WAS STUDIED USING THE BIS AND BAS SCALES THAT ASSESS, RESPECTIVELY, AVOIDANCE OF AVERSIVE STIMULI AND CONFLICT SITUATIONS, AND APPROACH TO AND DESIRE OF REWARD STIMULI. UNPREDICTABILITY OF NURTURE AND CARE, FINANCIAL RESOURCES, AND MEAL AVAILABILITY WERE ASSESSED USING THE FAMILY UNPREDICTABILITY SCALE (FU). BE SYMPTOMS WERE ASSESSED USING THE BINGE EATING SCALE (BES). A PATH ANALYSIS MODEL WAS USED TO ANALYZE THE DATA. PERSONALITY FACTORS WERE TREATED AS PRINCIPAL PREDICTORS, FU AS MEDIATORS, AND BE SYMPTOMS AS THE DEPENDENT/OUTCOME VARIABLE. GENDER, BMI, AND SOCIOECONOMIC STATUS WERE INCLUDED IN THE MODEL AS COVARIATES. AN EXCELLENT MODEL FIT WAS OBTAINED, [χ^2 (31) = 26.588, P = 0.692; RMSEA < 0.01; CFI = 1.000; TFI = 1.041], AND THE FINAL MODEL EXPLAINED 20.1% OF BE VARIANCE. THE POSITIVE EFFECTS OVER BE VARIANCE SUGGEST THAT FEMALE PARTICIPANTS (β = 0.180) WITH A HIGHER TENDENCY TO SEEK FOR IMMEDIATE REWARDS (BAS SUBSCALE, β = 0.205) AND AVOID CONFLICT SITUATIONS (BIS SCALE, β = 0.304), AND WITH A BMI CLOSER TO 25 KG/M² (β = 0.130) SCORED HIGHER IN BES. ONLY ONE FU FACTOR WAS RELATED TO BE, WITH MARGINAL SIGNIFICANT RESULTS (NURTURE AND CARE, β = 0.145, P = 0.056). HIGHER POSITIVE REACTIONS TO BRIEF REWARDS - ANOTHER BAS SUBSCALE - WERE NEGATIVELY (β = − 0.123) RELATED TO BE SYMPTOMS, REPRESENTING A PROTECTIVE FACTOR. THE OBSERVED EFFECTS OF PERSONALITY AND GENDER ARE CONSONANT WITH THE AFFECT REGULATION THEORY OF EATING DISORDERS, AS BE MIGHT BE AN IMPULSIVE STRATEGY TO REGULATE EMOTION IN FEMALE PATIENTS WITH GENETICALLY INFLUENCED PERSONALITY TRAITS LINKED TO STRESS VULNERABILITY AND REWARD SENSITIVITY. RESPONSIVENESS TO BRIEF REWARDS IS A PROTECTIVE FACTOR FOR DEPRESSIVE SYMPTOMS LINKED ALSO TO HEALTHY BEHAVIORS, AND IT MAY HELP PATIENTS TO PLAN AND ENGAGE IN STRATEGIES TO PREVENT BE. LONGITUDINAL MONITORING OF THESE PARTICIPANTS MAY ANSWER WHETHER PERSONALITY PROFILES IMPACT WEIGHT GAIN AND ADHERENCE TO WEIGHT REDUCTION INTERVENTIONS IN THE FUTURE.

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Human Visceral Adipose Tissue (VAT) Inflammation Is Not Associated With Perforin Deficiency in Type 2 Diabetes Mellitus (DM) Subjects as Compared to Health Controls

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Introduction: Role of T cells in VAT inflammation is poorly characterised. Perforin deficiency is associated with autoimmune inflammatory diseases like Hemophagocytosis Lymphohistiocytosis,as also in context of type 1 DM pathogenesis. Data from animal models suggest that perforin deficiency leads to VAT inflammation[1] **Objective**: We hypothesized $CD8^+/perf^+$ and $CD56^+/perf^+$ cells to be decreased in type 2 DM as compared to healthy controls. The present study also explored the difference in activation of T/NK cells between two groups **Methods:** 2×2 cm omental tissue was obtained from subjects undergoing elective abdominal surgery. The sample was transported in RPMI solution and stored in -80 ℃. Processing involved thawing, incubation at 37.6 ℃ for 24 hours with type IV Collagenase (1 mg/ml, Sigma Aldrich) 1ml/g of tissue,centrifuge (32*g* for 10 min at 10℃). The resultant Stromal Vascular fraction (SVF) was suspended in phosphate buffer saline (PBS), passed through cell strainer to make single cell suspension. It was again centrifuged and tagged with CD markers of interest. Fc block was added and single cell solution with FACS fluid prepared. It was run in BD CANTO-2 flow cytometer as described[2] **Results:** Of seventeen samples analysed, twelve samples of type 2 diabetes subjects were compared with five healthy controls. All results are presented in median. The diabetics had higher HbA1c (8.1 % vs 6%), higher BMI (28 kg/m^2 vs 24 kg/m^2), hsCRP(2.1 mg/dl Vs 0.9 mg/dl) but there was no difference in HOMA-Ir (5 vs 5.2 mU/L/mg/dl). The percentage of $CD4^+$ + $CD8^+$ cells/g of VAT was similar in both cases and control (20×10^3 Vs 23×10^3). $CD8^+/CD45^+/perf^+$ and $CD56^+/CD45^+/perf^+$ could not be identified in any of the