



Eating Behavior and Oxytocin in Childhood-onset Craniopharyngioma Patients

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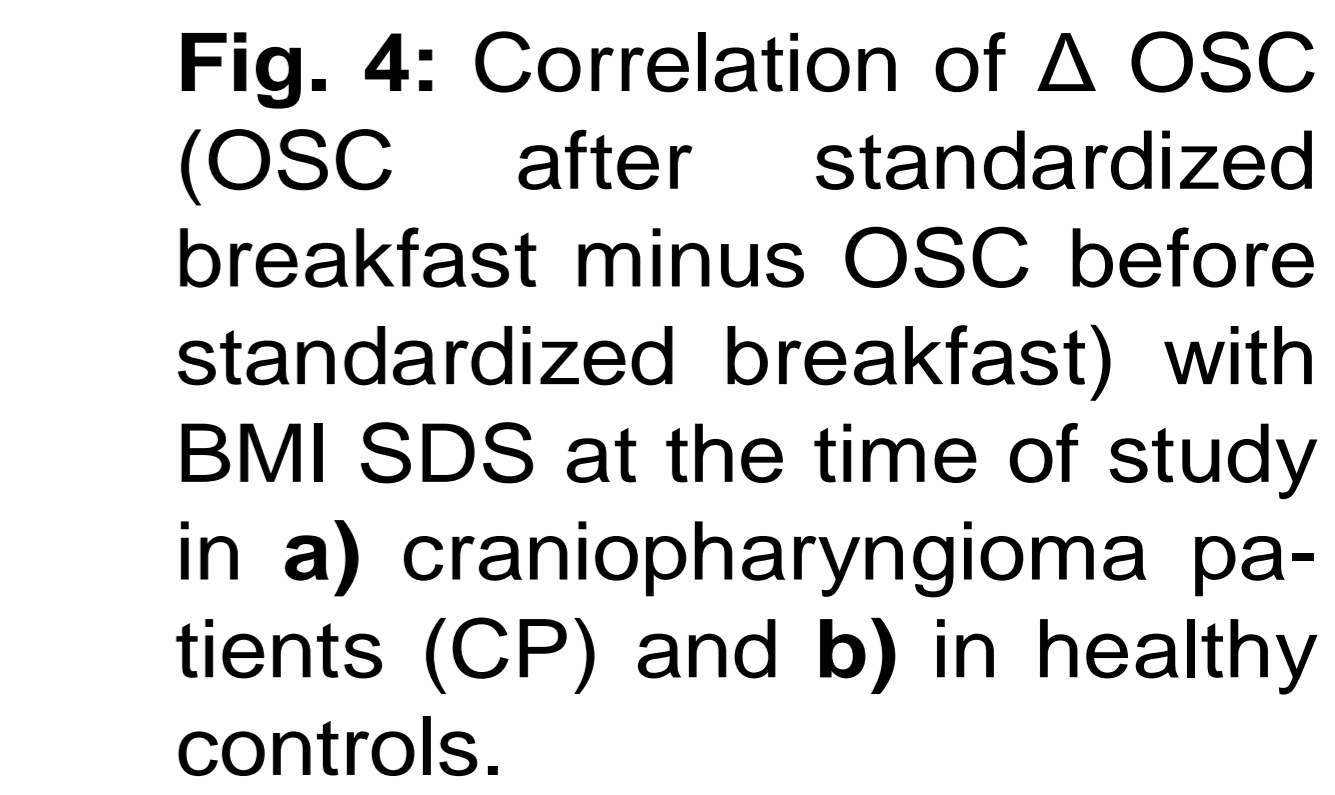
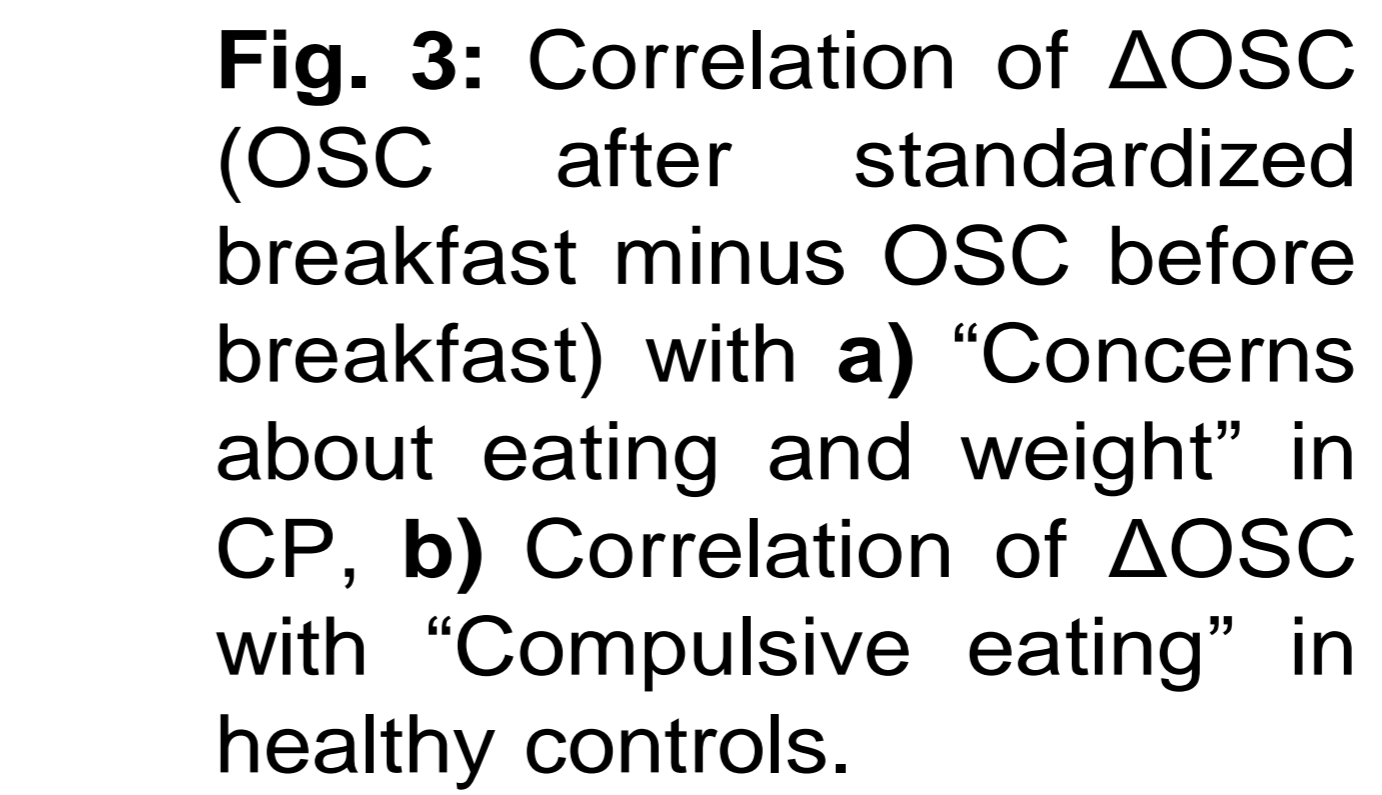
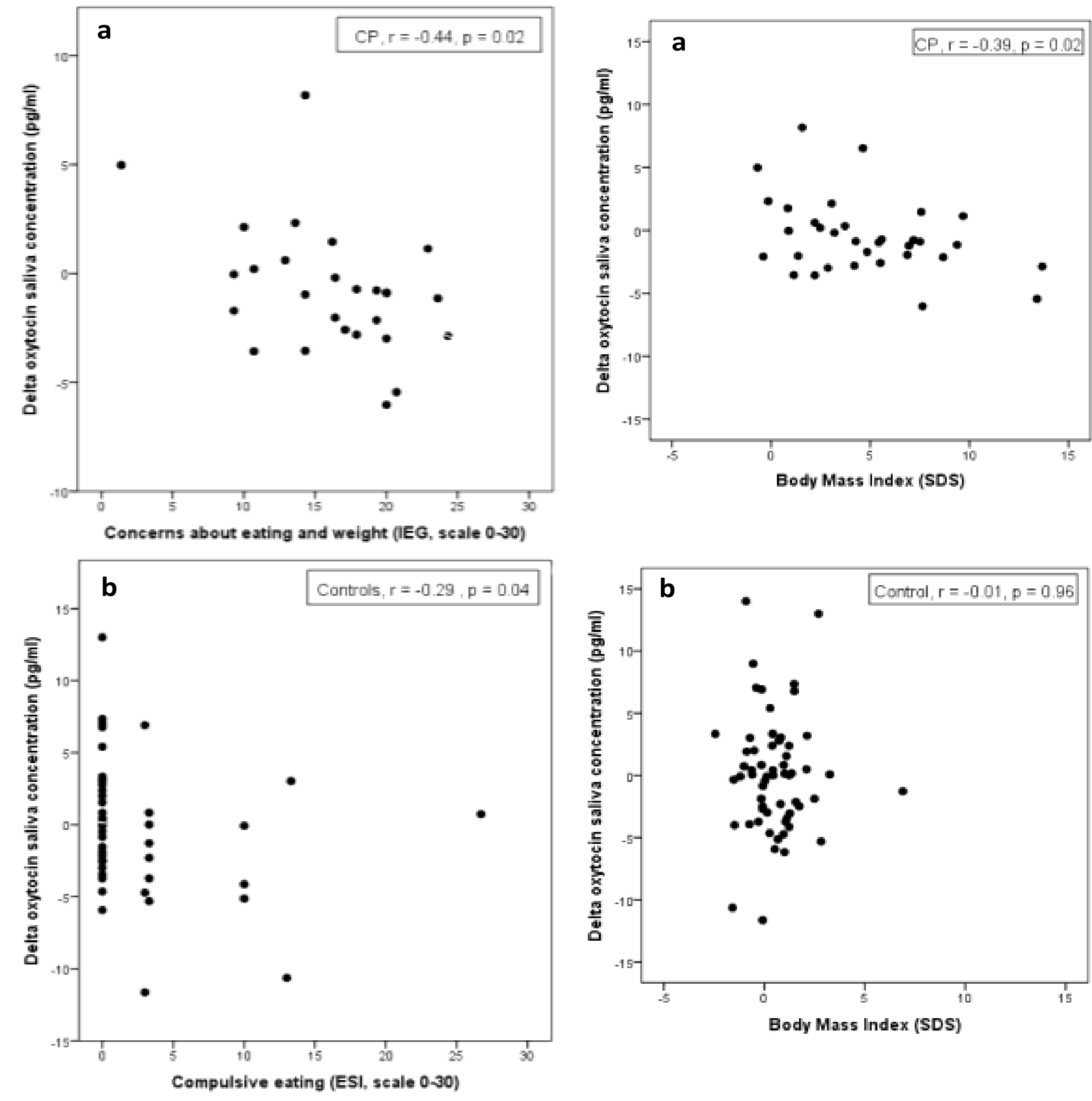
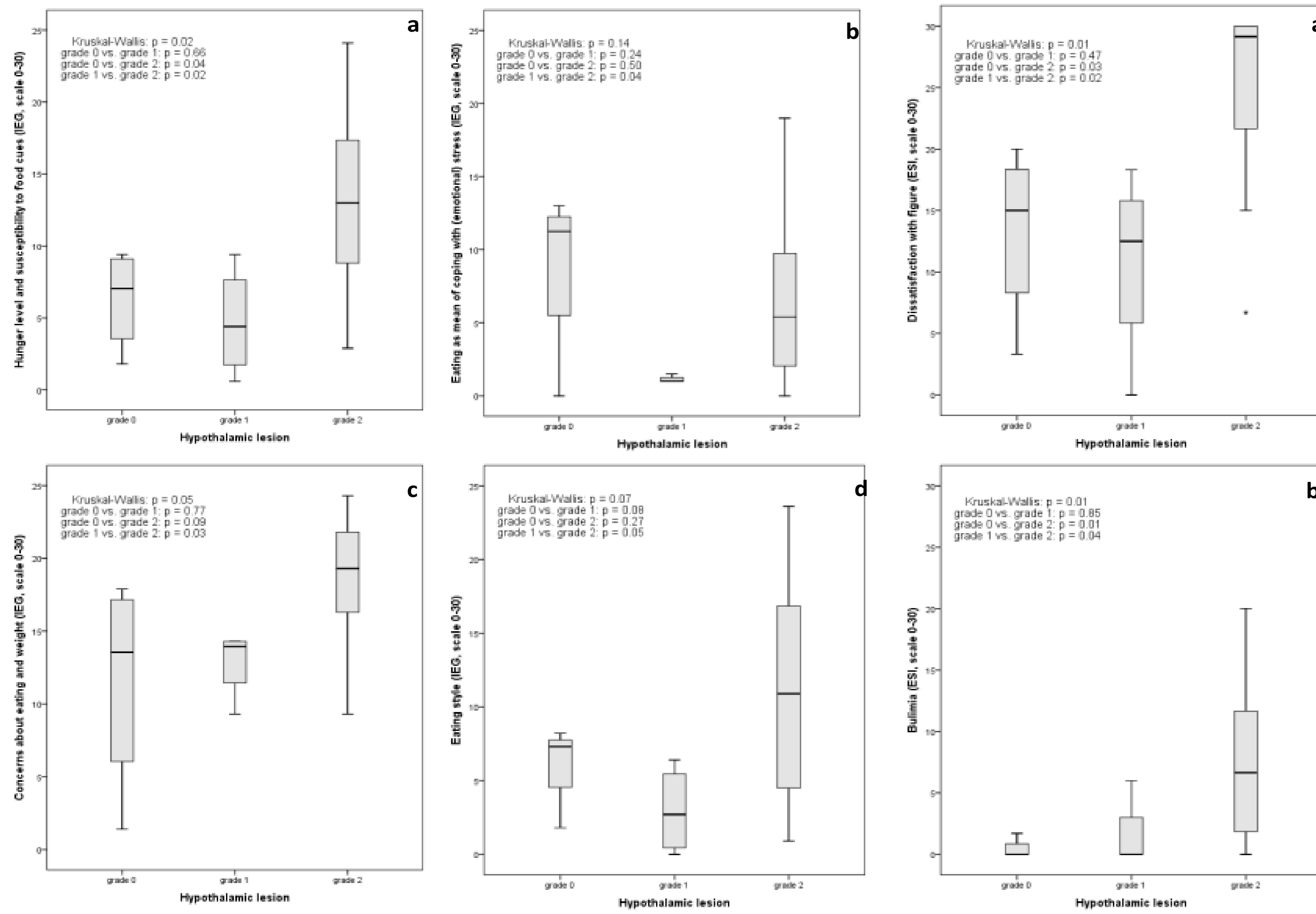
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Introduction

Obesity due to hypothalamic lesions (HL) frequently impairs quality of life in childhood-onset craniopharyngioma patients (CP). Oxytocin, a hormone of hypothalamic origin, plays a major role in the regulation of eating behavior and body composition. Associations between eating behavior, eating disorders and oxytocin concentrations in CP have not been analyzed so far.

Oxytocin

Oxytocin is a hormone synthesized by hypothalamic nuclei and secreted through pituitary into circulation. Oxytocin plays a pivotal role in parturition and maternal behavior. Furthermore, oxytocin is involved in regulation of body composition and several behaviors associated with neuropsychiatric disorders, including social interactions, and emotional reactivity.



Patients and Methods

Cross-sectional study on 34 CP and 73 healthy controls analyzing associations between eating behavior/eating disorders, HL and OSC (oxytocin saliva concentrations). OSC were measured before and after standardized breakfast by immunoassay. Eating behavior was assessed using the Inventory for Eating Behavior and Weight Problems and the Inventory for Eating Disorders.

Questionnaires

The Inventory for Eating Behavior and Weight Problems (IEG) serves to self-assess eating attitudes, eating behavior and/or putative problems with body weight. The Inventory for Eating Disorders (ESI) is a self-report measure which can be used to assess symptoms of disordered eating.

Results

For CP with anterior and posterior HL we observed more adverse eating behaviors and symptoms of eating disorders than for CP without HL, with anterior HL, and controls. Eating behavior in CP with anterior HL was similar to that of controls, except for their tendency towards high dietary restraints. Decreases in postprandial compared to fasting OSC were associated with adverse eating behavior in CP and controls as measured by IEG / ESI, respectively, and with higher BMI in CP.

Conclusions

Different grades of HL are associated with distinct patterns of eating behavior. Reduced postprandial compared to fasting OSC is associated with weight problems in CP and with adverse eating behavior and eating disorders in both CP and healthy controls.

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	Craniopharyngioma	Healthy controls
Study cohorts, n	34	73
Age at study, yr	20 (7 – 41)	39 (7 – 63)
Follow-up interval, yr	11 (1 - 31)	–
Gender, female / male	15 (44) / 19 (56)	32 (44) / 41 (56)
Body mass index, SDS	4.3 (-0.7 – 13.7)	0.4 (-2.5 – 6.9)
BMI SDS at study		
< +3SDS	12 (35)	64 (88)
+3 to +8 SDS	16 (47)	3 (4)
> +8 SDS	5 (15)	–
missing	1 (3)	6 (8)
Surgery, n (%)	32 (94)	–
Complete surg. resection, n (%)	10 (36)	–
Irradiation, n (%)	14 (41)	–
Hypothalamic lesion		
No lesions	6 (18)	–
Grade 1	7 (21)	–
Grade 2	14 (41)	–