

P02-130

CHARACTERISTIC PREFRONTAL BLOOD VOLUME PATTERNS WHEN IMAGING BODY TYPE, HIGH-CALORIE FOOD, AND MOTHER-CHILD ATTACHMENT IN CHILDHOOD ANOREXIA NERVOSA: A NEAR INFRARED SPECTROSCOPY STUDY

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Introduction: The risk for developing and preserving symptoms of anorexia nervosa (AN) in children seems to be multifactorial: individual, familial, socio-cultural, and biological factors interact within the developmental framework. A disruption of attachment processes with the mother in an early stage of child development has been proposed as a contributing factor; however, the evidence is controversial.

Objectives: To address the research question of how childhood AN patients recognize disorder-specific provocative factors such as body type, high-calorie food, and attachment between mother and child.

Aims: The aim of this study was to investigate the prefrontal activation in childhood AN patients when imaging those symptom-provocative factors.

Methods: The prefrontal activations during each task, in terms of blood volume changes, were measured by near infrared spectroscopy. Twelve females with childhood AN (mean age, 14.4 years old) and 13 age-matched healthy female controls participated in this study.

Results: Both groups showed increased prefrontal blood volume when viewing images of each symptom-provocative factor. Unexpectedly, there was no significant difference in the prefrontal blood volume increases between the control group and the childhood AN group when viewing images of slender and obese body types and high-calorie food. On the other hand, images of mother-child attachment resulted in significantly greater increases in prefrontal blood volume in the childhood AN group than in the control group.

Conclusions: These results indicated that prefrontal activation in AN might be associated with imaging attachment between mother and child, but not associated with imaging body type or high-calorie food.