Central nervous system processing of emotions in children with nocturnal enuresis and attention deficit hyperactivity disorder.

Equit M1, Becker A, El Khatib D, Rubly M, Becker N, von Gontard A.


AIM:
Nocturnal enuresis (NE) and attention deficit hyperactivity disorder (ADHD) are common in childhood. We analysed the central processing of emotions in children with NE, ADHD, NE+ADHD and controls.

METHODS:
We examined 13 children with NE, 13 with ADHD, 14 with NE+ADHD and 14 controls. Acoustic evoked potentials were recorded using standardised methodology. For the event-related potentials, positive, negative, neutral pictures were presented and time intervals of 250-450ms, 450-650ms and 650-850ms evaluated. Hypotheses were tested with repeated-measurement analyses of variance.

RESULTS:
In the frontal region, children with NE showed more intense responses to positive and negative pictures than controls measured with event-related potentials. Viewing positive pictures, children with NE+ADHD differed from children with ADHD in the central and parietal and for all types of stimuli in the parietal region. Children with NE+ADHD elicited the strongest responses. Children with ADHD did not differ from controls. There was an unspecific interaction effect of the acoustic evoked potentials in children with NE compared to the controls.

CONCLUSION:
Children with NE processed emotions differently from children with ADHD and controls. Children with NE+ADHD processed emotions the most intense, displaying interaction effects of the central nervous system that cannot be explained by each disorder alone.