Emotion regulation in congenital adrenal hyperplasia

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INTRODUCTION

- Cortisol is involved in generating and regulating emotional responses to stimuli.
- In addition, emotion regulation brain networks overlap with working memory networks that have been found to have structural changes in patients with CAH at adult age.
- The life-long disturbance of cortisol, in addition to brain changes could therefore contribute to problems with emotion regulation in patients.

AIM

- The present study aimed to address emotion regulation skills in adult patients with CAH compared to population controls.

METHOD

- 32 CAH patients (20 females) and 37 healthy controls (23 females), aged 16-33, performed an emotion regulation task.
- Emotional reactivity to negative pictures was measured with facial electromyography (EMG) amplitude/pre maintain). During the task, participants were asked to either upregulate, downregulate or maintain their emotional responses to negative or neutral images. During image presentation, a sound burst was presented to evoke an acoustic startle response. Emotional reactivity to the sound was measured with facial EMG of the left orbicularis oculi muscle to assess amplitude and likelihood of startle responses.

CONCLUSIONS

- In general, patients with CAH were able to regulate their emotions to the same extend as controls.
- However, they showed somewhat reduced upregulation ability compared to controls.
- Failure to upregulate startle likelihoods could potentially be associated with the flexibility of baseline arousal, related to altered adrenal medulla function.
- We therefore propose to investigate emotion regulation in relation to adrenal medulla function in patients with CAH.

REFERENCES


RESULTS

- Compared to controls, patients with CAH showed a smaller upregulation of the likelihood of an acoustic startle response when viewing negative stimuli.
- However, the amplitude of the startle response after the upregulation instruction did not differ between groups.
- There were no differences in either startle amplitude or likelihood after downregulation instruction.

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