ground and hormones extracted. The supernatant was separated by HPLC for identification of cortisol and cortisone and the quantity of ^{3}H that was associated with the analyte fraction.

The quantity of hair collected at the 3-week collection was highly variable between monkeys, indicating that the inter-subject hair growth patterns were not consistent. There was no radioactivity found in the external wash. Only a small amount of radioactivity was incorporated into the hair, and for two of the monkeys it was identified as ^{3}H-cortisol, but for one monkey the radioactive fraction was identified as both ^{3}H-cortisol and ^{3}H-cortisone.

The results of this pilot study are demonstrating that incorporation of ^{3}H-cortisol into the hair of similarly matched rhesus monkeys was highly variable. Further work to understand the factors that affect this variability are needed in order to understand the biological significance of hair cortisol.

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PO135

Cortisol levels in fingernails and neurocognitive performance in euthymic bipolar I patients and healthy controls

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Background: Neurocognitive impairment has been found in bipolar patients. However, the cause of this is not fully understood. Hypercortisolaemia is a possible cause, but there is no agreement about this. This may be because previous sampling methods assess acute cortisol levels, while the association between psychopathology and cortisol might be explained by chronic levels. Fingernails can now be used to measure chronic cortisol concentration (CCC). In this study we assessed CCC in euthymic bipolar I patients (BD-1) and matched controls using fingernails to see whether differences in CCC influenced neurocognitive abilities.

Methods: Data from Cheung et al.'s (2013) study was used, which found neurocognitive impairment in euthymic BD-1 patients. For the current study, we included a subsample from 82 people who provided fingernail samples, including 42 BD-1 patients and 40 matched controls. The cortisol was analysed using the Warnock et al. (2010)'s protocol.

Results: There was no statistically significant difference in CCC between healthy participants and BD-1 ($p = .09$). Correlational analyses revealed that the CCC in nails of BD-1 patients were not associated with any clinical illness variables. Multiple logistic regression analyses showed that there was no association between CCC and cognitive impairment in all domains before and after adjustment for age and sex.

Conclusions: No difference in CCC indicates that this hormone is not a trait illness biomarker in euthymic BD-1. Furthermore, cortisol does not seem to be implicated in the relationship between neurocognitive impairment and BD-1. Future studies should investigate CCC in different illness phases of BD-1.

Further reading

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Stress across the Lifespan

PO136

The relationship of anti-Mullerian hormone levels and urine cortisol in women with chronic abdominal pain

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Context: Persistent and intense stress leads to chronic activation of the hypothalamic-pituitary-adrenal (HPA) axis, placing an individual at increased risk for the development of disease. HPA activity inhibits ovarian functioning, and may contribute to female infertility.

Objective: The objective of the study was to explore the association of HPA activity with ovarian functioning in female participants with and without chronic abdominal pain (CAP).

Design/setting/and subjects: A secondary data analysis was performed using data from female participants in a natural history protocol at the National Institutes of Health. A total of 36 females (19–39 years, mean 27.11) were included in the study.

Main outcome measurements: Whole blood was drawn for determination of serum levels of anti-Mullerian hormone (AMH), luteinizing hormone, follicle stimulating hormone, and cortisol. Urine samples were collected over a five hour period for determination of cortisol levels. CAP was defined as presence or absence of chronic abdominal pain for >6 months and was determined via self-report.

Results: AMH concentrations declined significantly with age as expected. When AMH levels were dichotomized as normal or abnormal (defined as higher or lower than age-specific normative ranges), there were significant associations between abnormal AMH levels and CAP and urine cortisol levels. Subjects with CAP or low urine cortisol levels were significantly more likely to have abnormal AMH levels.

Conclusions: Results suggest that chronic pain and HPA dysregulation may be associated with abnormal AMH levels.

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