one's blood sugar past normal ranges. **Results:** Our results show (0.45%) rate of adverse events. 2 patients in the entire cohort suffered from seizures during their hypoglycemic period. Both of them were successfully aborted with Ativan, and patients were monitored until recovery from post ictal state and discharged home with stable vitals and no acute symptoms. It was later discovered these patients had remote history of epilepsy and should've been excluded from this trial. Of the remaining 448 subject encounters, (20%) of them required urgent intervention to BP. Zero of those patients suffered any other symptoms or ongoing adverse effects. 5 patients underwent the ITT twice, again, with no adverse effects. **Conclusion:** No permanent adverse events or hospitalizations were reported. Based on our findings the clinical safety concerns of the ITT test are minimal compared with the benefit of obtaining an accurate diagnosis in this patient cohort, if done within the correct protocol. Using IGF-1 measures as a determinant of GHD is wildly inaccurate as seen in our results. Combining IGF-1 with the Cosyntropin test is not a good enough measure for diagnosing GHD. The ITT test remains the most accurate and reliable test available today.

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Abnormal Pituitary Imaging and Associated Endocrine Dysfunctions in Erdheim-Chester Disease

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Background: Erdheim Chester disease (ECD) is a rare histiocytic neoplasm associated with hypothalamic and pituitary infiltration and dysfunction. We determined the abnormal pituitary imaging (API) phenotypes in subjects with ECD and analyzed their associated endocrine dysfunctions. **Methods:** This was a cross-sectional examination of a natural history cohort study of 61 subjects with ECD performed at a tertiary care clinical research center. The diagnosis of ECD was based on clinical, molecular, and histopathological features. Enrolled subjects underwent baseline endocrine tests of anterior and posterior pituitary function in addition to pituitary imaging. The following variables were analyzed- age, sex, body mass index (BMI), *BRAF V600E*, hsCRP, ESR, pituitary hormone deficit number, diabetes insipidus (DI), and panhypopituitarism. Fisher's exact test or t-test/Wilcoxon tests compared patients with and without API. **Results:** Sixty-one subjects with ECD (age ±SD: 54.3 ±10.9, 46 (75.4%) males) were studied. The prevalence of API was 32.8% (n=20), who were younger than those with normal imaging (50.3 ±10.5 vs 56.3 ±10.7 yrs, p=0.042). The most common pituitary imaging abnormalities included thickened pituitary stalk (18.03%, n=11/61), followed by pituitary encasement, small pituitary and abnormal morphology (6.55%, n= 4/61 for each). A higher prevalence of DI (45.0% vs 9.8%, p=0.003) and panhypopituitarism (45.0% vs 4.9%, p<0.001), and a higher number of pituitary deficits (median (IQR): 2.0 (0-2.5) vs 0 (0-1.0), p=0.007) were noted in patients with API compared to those with normal imaging. Other biochemical markers were similar between both groups. **Conclusion:** Abnormal pituitary imaging was commonly seen in ECD and was also associated with a younger age and hormone deficits suggesting associations with pituitary structure-function.

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Abnormal Sodium is a Predictor for Respiratory Failure and Mortality in Hospitalized Patients With COVID-19

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Background: Hypernatremia and hyponatremia (serum sodium > 145 mmol/L and < 135 mmol/L, respectively) are independent risk factors for excess mortality in patients with bacterial pneumonia. We sought, for the first time, an association of sodium [Na] abnormalities with mortality, need for advanced respiratory support and Acute Kidney Injury (AKI) in hospitalized patients with coronavirus disease 19 (COVID-19). **Methods:** This retrospective, longitudinal, cohort study included 488 adults, 277 males and 211 females, with a median age of 68 years, who were hospitalized with COVID-19 to two hospitals in London over an 8-week period (February to May 2020). **Results:** The in-hospital mortality rate was 31.1% with a medial length of stay of 8 days. High [Na] levels at any timepoint during hospital stay were associated with significantly increased mortality rate (56.6% vs 21.1% in patients who remained constantly normonatremic; odds ratio 3.05, 95%

CI 1.69-5.49; p<0.0001). On day 3 and on day 6, high [Na] values predicted mortality with an estimated odds ratio of 2.34 (95% CI 1.08 – 5.05, p=0.0014) and 2.40 (95% CI 1.18 - 4.85, p=0.001), respectively. Non-survivors had a significantly higher 5-day rise in serum [Na] when compared to survivors (3.60 mmol/L vs 1.14 mmol/L respectively, p<0.05). Patients with low serum [Na] levels on admission had a 2.18-fold increase (95% CI 1.34-3.46, p=0.001) in the likelihood of needing advanced ventilatory support compared to those with normal [Na] (31.7% vs 17.5%, respectively). However, exposure to hyponatremia at any timepoint, including at presentation or on day 3 or day 5, was not associated with excess risk of
death. AKI affected 37.1% of patients (21.3%, 7.4% and 8.4% stages 1, 2 and 3 respectively) but was not related to serum sodium values. **Conclusions:** In hospitalized COVD-19 patients, hypernatremia at any timepoint was associated with excess mortality, suggesting that [Na] concentration may facilitate risk stratification. In addition, whilst our data cannot prove causality, these findings highlight the significance of judicious rehydration in such patients.

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Acute and Chronic Posterior Pituitary Insufficiency Among Traumatic Brain Injury Patients at a Tertiary Care Center

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Background: Traumatic brain injury (TBI) is the leading cause of death and disability in young adults. Disorders of salt and water balance are the most commonly recognized medical complications in the immediate post-TBI period and contribute to early morbidity and mortality. **Objective:** We aimed to evaluate the prevalence of acute (during hospital stay) and chronic posterior pituitary dysfunction in patients of head injury admitted at our tertiary care hospital. **Study Design:** Prospective, Observational study. **Participants:** 136 patients, attending tertiary care in North India with TBI with radiological evidence of head injury. **Methodology:** The severity of brain injury was assessed by the Glasgow Coma Scale (GCS), and Modified Rankin Scale (MRS) score at the time of admission. Lab measurements, apart from routine CBC and biochemical tests, included tests of serum and urinary osmolality, serum sodium, cortisol, and thyroid function test during the hospital stay. All patients were monitored closely during the hospital stay. Surviving patients were evaluated at 3, 6, and 12 months of follow-up. Urinary output and water deprivation tests were done to determine chronic posterior pituitary dysfunction. The results were compared against normative data obtained from 25 matched, healthy controls. Serum & urinary osmolality was measure by the freezing point method. Diabetes insipidus (DI) and Syndrome of inappropriate ADH secretion (SIADH) were diagnosed according to standard criteria. **Results:** Of 136 patients admitted, 61 (44.85%) had a mild head injury (GCS, ≤8), 47 (35.55%) had a moderate injury (GCS, 9-12), and 27 (19.85%) had a severe injury (GCS, 13-15). DI occurred in 10 patients (7.4%), while SIADH was observed in 4 patients in the immediate TBI period. Risk factors for diabetes insipidus were GCS of ≤ 8 at admission, midline shift, and surgical intervention. DI was an independent risk factor for death. There was a negative correlation between the presence of DI and GCS score (r, -0.367). Most of the patients with DI (8 out of 10) died during the hospital stay. One patient persisted to have partial diabetes insipidus and another one SIADH at three months post-TBI; both patients had recovered at six months of follow-up. No new case of DI or SIADH occurred on the follow up to 12 months. **Conclusion:** The incidence of acute DI in severe head injury (GCS ≤ 8) could be an indicator of the severity of TBI, and associated with increased mortality as most of our patients died during the hospital stay.

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Appetite-Regulating Hormone Ghrelin Predicts Decision-Making in Healthy Controls but Not Individuals With Low-Weight Eating Disorders

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Background: Ghrelin is an orexigenic hormone known to regulate appetite, glucose homeostasis, and other food-related functions. The potential role of ghrelin beyond energy homeostasis is not well understood. Ghrelin receptors are evident in the mesolimbic reward pathway, and preclinical research has shown that ghrelin administration increases impulsive behavior and choices in rats. However, little is known about whether and how ghrelin is associated with food-independent behavior and decision-making in humans. We investigated the relationship between ghrelin levels and monetary decision-making using a well-established behavioral paradigm in healthy individuals and individuals with a low-weight eating disorder (LWED), as patients with LWEDs have been shown to have high ghrelin levels and resistance to the effects of this hormone. We hypothesized that higher ghrelin levels would predict more impulsive choices of immediate rewards in healthy individuals, while this relationship would be less pronounced in individuals with LWEDs.
Methods: Sixty-four female participants with a LWED and 34 healthy controls (HC), aged 10-22 years, presented after a 10-hour fast to undergo a standardized mixed meal followed by a delay discounting task. During this task, participants decided between smaller immediate and larger delayed monetary rewards. Based on their choices,