months history of progressive decreased vision and decreased libido. He denied headache, seizure, erectile dysfunction, or weakness. On physical examination, his visual acuity was significantly reduced on the right eye and was only able to perceive light. He had a visual field narrowing on the left eye. Gynecomastia was noted bilaterally and testicles were found to be enlarged (Orchidometer >25 mL). Complete blood count was significant for hemoglobin of 19.2 g/dL (N, 13.7-17.5 g/dL), and hematocrit of 57.0% (N, 40.1-51.0%). Pituitary function tests were as follow: FSH >200.0 mIU/mL (N, 1.5-12.4 mIU/mL), LH 17.0 mIU/mL (N, 1.7-8.6 mIU/mL), total testosterone 41.3 nmol/L (N, 8.6-29.0 nmol/L), free testosterone 1.263 nmol/L (N, 0.148-0.718 nmol/L), and bioavailable testosterone 29.609 (N, 2.110-8.920 nmol/L). Prolactin, TSH, GH, and ACTH were all within the normal range. Magnetic resonance imaging (MRI) showed a sellar mass involving the planum sphenoidal measuring 5.8 x 5.2 x 5.6 cm with optic chiasm displaced superiorly, in addition, subfalcine herniation with mild hydrocephalus was also noted. The patient underwent orbitozygomatic approach resection of the pituitary tumor. Histological examination was consistent with a pituitary adenoma. Cells stained positive for transcription factor steroidogenic factor 1 (SF 1), FSH, LH, and alpha-subunit consistent with a gonadotroph adenoma. They were negative for transcription factor Pit 1 stain and the remaining pituitary hormones including ACTH, GH, prolactin, and TSH stain. Postsurgical hormone assessment showed a significant decline in FSH and LH to 2.3 and 0.4 mIU/mL, respectively and testosterone level decreased to < 0.087 nmol/L on postoperative day 18. The patient’s vision improved postoperatively prior to discharge but he lost follow up thereafter.

Conclusion: Most patients with functioning gonadotroph pituitary adenoma present with large tumors that are detected based on the occurrence of symptoms of compression that result from the enlarging sellar mass. Most patients, particularly men and postmenopausal women, do not develop symptoms of hormone excess and the lack of symptomatology results in delay in diagnosis. Our patients presented with significant polycythemia which resulted from excess testosterone and could have prompted earlier tumor detection if he had presented in an earlier stage. The incidence of polycythemia in male patients with functioning gonadotroph pituitary adenoma has previously been described in the literature in a few case reports.

**Bone and Mineral Metabolism**

**BONE DISEASE FROM BENCH TO BEDSIDE**

**Prevalence and Incidence of Hypomagnesemia and Hypermagnesemia in Medical Settings**

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**SUN-343**

Electrolytes disturbances are commonly observed in clinical practice. However, magnesium (Mg) disorders are often poorly considered. Our primary aim was to update the prevalence and the incidence of hypomagnesemia and hypermagnesemia in a real-life scenario. The secondary aim was to investigate the association of Mg disturbances with age and gender. Data from patients whose Mg serum levels were measured between January 2015 and December 2017 at our University Hospital were recorded. Hypomagnesemia was defined by Mg levels <1.5 mg/dL and hypermagnesemia...
Adrenal

ADRENAL CASE REPORTS II

Adrenal Crisis in Early Pregnancy

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SUN-164

Nausea and vomiting are common symptoms in pregnancy, ranging from occasional nausea to fulminant and intractable vomiting. Many underlying metabolic disorders can mimic this, primary adrenal insufficiency (PAI) being one of them. Here, we present a case of adrenal insufficiency early in pregnancy.

A 28 year old lady G1P0 at 8 weeks of gestations, with a past medical history of Grave’s Disease, presented to our hospital on 3 occasions over one week with severe intractable nausea and vomiting. On prior visits, she had received intravenous fluids and discharged home. Laboratory work-up was ordered on the third visit and she was found to have severe hyponatremia with level of 111mMol/L. TSH and FT4 levels were both within the reference range. AM cortisol level was low at 2.3mcg/dL. ACTH and renin were both significantly elevated confirming diagnosis of PAI.

Intravenous hydrocortisone was commenced immediately with rapid resolution of her symptoms and correction of her hyponatremia. She was followed at the endocrinology clinic, with appropriate up-titration of glucocorticoid and mineralocorticoid doses throughout her pregnancy.

Diagnosis of PAI is usually established prior to pregnancy. Presentation during pregnancy is not common, but it should be considered as a differential diagnosis when symptoms are out of proportion to the gestational status. Normal pregnancy is accompanied by progressive increase in circulating CRH and ACTH, increasing the levels of free cortisol as early as 7 weeks of gestation, rising up to 20-fold by the end of pregnancy. These physiologic changes could explain early presentation of adrenal crisis given insufficient glucocorticoid production. A delay in diagnosis and treatment increases the risk of maternal and fetal morbidity and mortality significantly.

Management of PAI during pregnancy can be challenging as there are no established guidelines and they have mainly been based on observational studies (1). The appropriate selection and dose of the glucocorticoid is important for the treatment of PAI to minimize adverse effects on mother and baby (2). At the time of active labor and delivery, stress doses of glucocorticoids need to be administered to prevent adrenal crisis (3).

In conclusion, early diagnosis and appropriate management of PAI during pregnancy is necessary to sustain a healthy pregnancy.

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Diabetes Mellitus and Glucose Metabolism

LIPIDS, OBESITY AND METABOLIC DISEASE

Increased Fibroblast Growth Factor 21 Protein Expression via in Vivo Delivery of a Liver-Specific Expression Plasmid

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SAT-652

Fibroblast growth factor 21 (FGF21) is an important liver-secreted hormone that activates thermogenesis in white and brown fat deposits. In various models of obesity, FGF21 administration consistently facilitates weight loss and improved metabolic function. Several FGF21 variants,