A case of “failed” bariatric surgery

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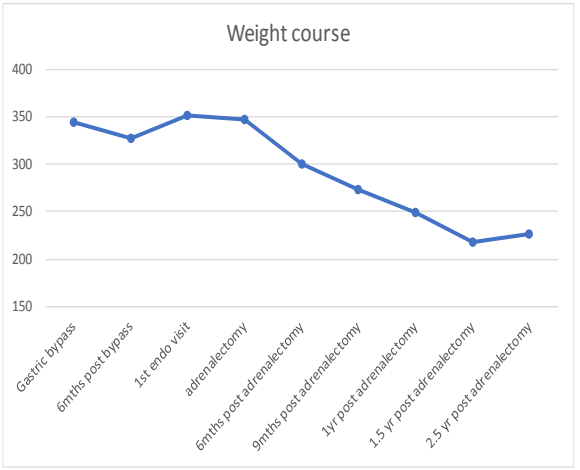
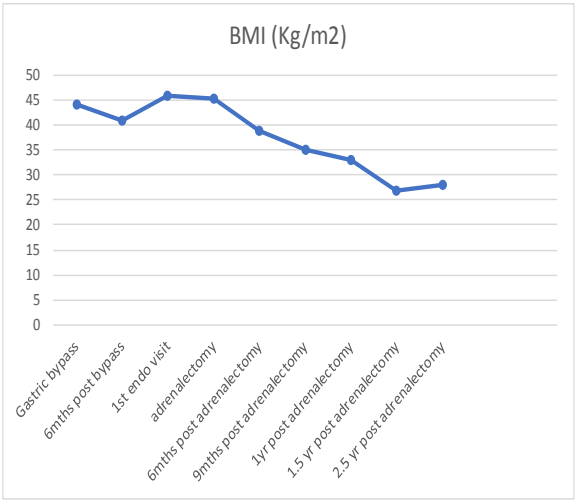
Case Presentation

- DH is a 35 yr old African American lady referred to the weight management center on account of failed bariatric surgery and recent finding of adrenal lesion.
- Her weight struggles date back to ~ 7 yrs ago following her last delivery and she finally reached a peak of 345lbs (BMI 44) prior to having elective laparospcopic gastric bypass surgery.
- Despite her efforts with various commercial diet plans and regular gym attendance she was unable to lose any significant amount of weight prior to the elective surgery.
- Her associated comorbidities included type 2 diabetes (on basal insulin; lantus, metformin and glimperide), dyslipidemia, essential hypertension, OSAS, GERD and bilateral knee OA.
- Her post operative course was marred by recurrent episodes of upper abdominal pain, nausea and vomiting for which she had endoscopic studies and adjustments of the size of the stomach pouch and her nadir weight post bypass was 327lbs ~ 6mths post surgery and then she began to regain weight despite reportedly being compliant with the post procedure dietary regimen.
- In the course of work up for her post operative GI symptoms she had an abdomen Ct that identified a 2.3cm right adrenal nodule with radiologic features consistent with a benign adenoma; she was referred to endocrine and weight management center for further evaluation of this.

Case presentation continued

- Patient was first seen in the endocrine clinic ~ 2.5yr post gastric bypass with an initial weight of 352lbs (BMI 46).
- Endocrine evaluation revealed normal aldosterone and Cathecolamine dynamics.
- She had elevated serum free, 24 hr urinary and both AM and PM salivary cortisol levels with ACTh levels in the 12-24pg/ml range. Her overnight dexamethasone suppression test was abnormal (post suppression cortisol of 12.3ug/dl). She also had osteoporosis on bone density despite still have occasionally irregular menstrual periods.
- A diagnosis of adrenal based cushing's syndrome was made despite her non typical phenotypic appearance.
- She had elective laparoscopic right adrenalectomy which on pathology was confirmed as adrenocortical adenoma.
- Post operatively she began to lose weight dramatically and as at last ffup ~ 4 yrs post adrenalectomy her weight was 226lbs (BMI 28) on metformin only for diabetes treatment and HBA1c 5.9, on one antihypertensive and no longer needing a CPAP mask.





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Hypercortisolemia and Obesity

- Classic Cushing' s syndrome is a rare condition; ~ 5-25/million per year
- Clinically significant hypercortisolemia is way more common
- Subclinical Cushing's syndrome prevalence has been estimated to be up to 15-25% of enriched high risk populations like morbidly obese subjects, type 2 diabetics, resistant hypertensives, obese subjects with osteoporosis, patients with failed bariatric surgery etc.
- Iatrogenic cushing's syndrome is the commonest of all with over 10million persons per year on pharmacologic dose steroids continuously of which 30-50% have features of the syndrome.
- Clinical detection and laboratory confirmation is very difficult.
- Failure of diagnosis has profound consequences.
- Early diagnosis and treatment has potential for great impact on morbidity and mortality.
- There are effective treatment options available including surgery and medications including mifepristone (Korylym) and metyrapone (Metopirone).

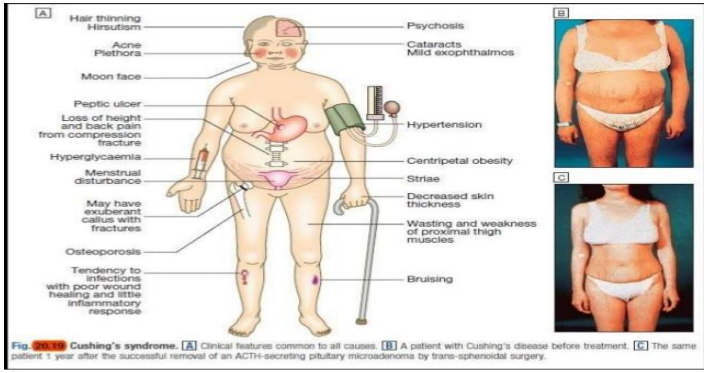

Fig. 26.19 Cushing's syndrome. [A] Clinical features common to all causes. [B] A patient with Cushing's disease before treatment. [C] The same patient 1 year after the successful removal of an ACTH-secreting pituitary microadenoma by trans-sphenoidal surgery.

Kumar et al: Robbins & Cotran Pathologic Basis of Disease, 8th Edition.

A patient with Cushing syndrome demonstrating central obesity, "moon facies," and abdominal s

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Hypercortisolemia and Obesity; our local experience

- In 8 yrs (2010 to Dec 2018); 587 documented Cushing's cases system wide from ~ 3.5million unique clinical encounters
- 443 (75%) with BMI > 30
- 113 (19.2%) with BMI > 40
- 23 with bariatric surgery (100% still with BMI >30 and 15; 65% with BMI >40)
- Personal Clinical experience;
- 16 patients with non iatrogenic Cushing's syndrome over this period;
- All Obese (5 Pituitary etiology, 10 adrenal, 1 ectopic)
- 8; classic Cushings, 8 subclinical
- 2 managed medically with Korylym (salutary weight response in both; adrenal CS
- Of 8 adrenal CS with surgical adrenalectomy 4 had salutary weight response and 4 had nil significant weight loss benefit)

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Hypercortisolemia and Obesity; Take home points

- It is not as rare as often presumed
- The patients often do not look like classic “textbook” cases.
- Untreated hypercortisolemia can significantly negatively impact response to obesity management including bariatric surgery.
- Most clinically significant Cushing’s syndrome is subclinical and therefore particularly difficult to diagnose.
- Clinical hypercortisolemia contributing to obesity can be managed medically or surgically depending on the unique causes and presentation of the individual patient.

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Hypercortisolemia and Obesity

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- **Cushing's syndrome might be underappreciated in patients seeking bariatric surgery: a plea for screening.** Fleseriu M[1], Ludlam WH, Teh SH, Yedinak CG, Deveney C, Sheppard BC.
- Effectiveness of Metyrapone in Treating Cushing's Syndrome: A Retrospective Multicenter Study in 195 Patients. Eleni Daniel, Simon Aylwin, Omar Mustafa, Steve Ball, Atif Munir, Kristien Boelaert, Vasileios Chortis, Daniel J. Cuthbertson, Christina Daousi, Surya P. Rajeev, Julian Davis, Kelly Cheer, William Drake, Kirun Gunganah, Ashley Grossman, Mark Gurnell, Andrew S. Powlson, Niki Karavitaki, Isabel Huguet, Tara Kearney, Kumar Mohit, Karim Meeran, Neil Hill, Aled Rees, Andrew J. Lansdown, Peter J. Trainer, Anna-Elisabeth H. Minder, andJohn Newell-Price
- Sustained weight loss in patients treated with **mifepristone** for **Cushing**'s **syndrome**: a follow-up analysis of the SEISMIC study and long-term extension. Fein HG, Vaughan TB 3rd, Kushner H, Cram D, Nguyen D. BMC Endocr Disord. 2015 Oct 27;15:63. doi: 10.1186/s12902-015-0059-5.

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Thank you very much
Questions? Comments?

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