52 y.o. patient presents for routine office visit. PMH T2DM well controlled on glyburide. He is compliant with medication and eliminating foods with high glycemic index. His weight is down a few lbs. You order routine labs.

Test	Result	Flag	Reference
Hemoglobin A1c	14.0	H	<5.7
UNITS OF MEASURE: % of total Hgb According to ADA guidelines, hemoglobin A1c <7.0%			
Estimated Average Glucose mg/dL	355 (calc)		()

Due to poor glycemic control, you order follow up studies considering secondary causes of diabetes. Which of the following would NOT be expected to be associated with hyperglycemia?

1. Ectopic ACTH production
2. Failure of enterocyte transferrin receptor
3. Somatotroph adenoma
4. Lactotroph adenoma
5. Failure of posttranslation glycosylation of CFTR protein
6. Painful, necrotic bronze-colored skin rash

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Secondary causes of DM

Ectopic ACTH production: Small cell ca → hi cortisol
Failure of enterocyte transferrin receptor: hemochromatosis
Somatotroph adenoma: Gluconeogenesis and insulin antagonism
Lactotroph adenoma
Failure of posttranslation glycosylation of CFTR protein: CF and pancreatic insufficiency
Painful, necrotic bronze-colored skin rash: Glucagonoma (necrolytic migratory erythema)

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On further history, you determine the patient is on other medications. Which of the following combination of medications would be most likely to contribute to hyperglycemia?

1. Niacin and Valsartan
2. Hydrochlorothiazide and Lisinopril
3. Prednisone and Alendronate
4. Metoprolol and Nifedipine
5. Niacin and Hydrochlorothiazide

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Secondary causes of DM: Medications

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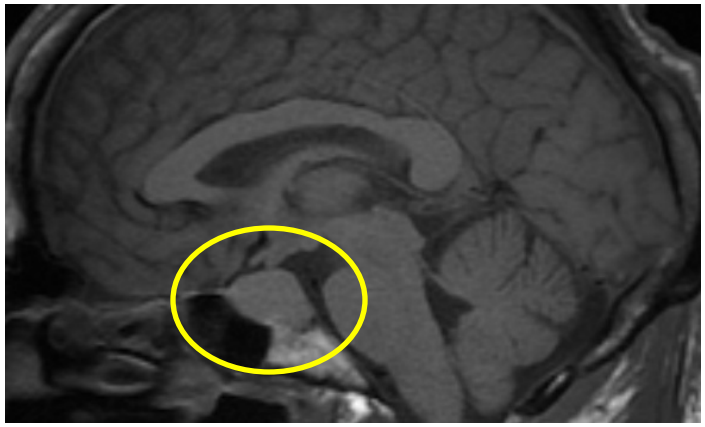
3. Prednisone and Alendronate
4. Metoprolol and Nifedipine
5. Niacin and Hydrochlorothiazide

With results pending, the patient develops a severe headache. Visual fields reveal a peripheral deficit. Head CT is ordered.



A pituitary mass is noted. Hormonal studies are assessed. Prolactin and thyroid function is normal. 24 hr urinary cortisol is normal. Two days later the following test result is obtained:

Test	Result	Flag	Reference
Insulin Like Growth Factor - 1	953 ng/mL	H	50-317

If untreated, which of the following is most likely develop?

1. Dilated cardiomyopathy
2. Macroglossia
3. Hypertension
4. Linear bone growth
5. Some of the above
6. All of the above

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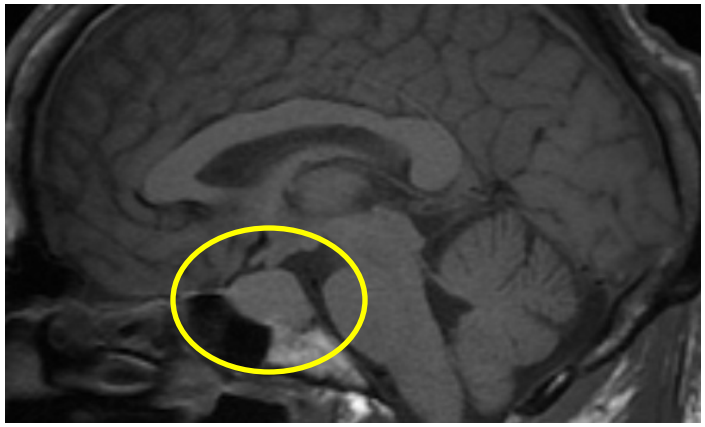

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52 y.o. patient

Growth plate closure

1. Dilated cardiomyopathy
2. Macroglossia
3. Hypertension
4. ~~Linear bone growth~~
5. Some of the above
6. All of the above

Lateral bone growth in acromegaly

The patient undergoes transphenoidal hypophysectomy. Subsequent testing reveals persistent elevations of the IGF-1.
[FYI: microadenomas 90% cure; macroadenomas 50% cure].
Which of the following agents would be most likely to achieve biochemical remission of IGF-1 and GH levels?

1. Somatostatin analogs
2. Pegvisomant

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Which of the following agents would be most likely to achieve biochemical remission of IGF-1 and GH levels?

1. Somatostatin analogs: inhibit secretion of GH and thereby IGF-1

2. Pegvisomant (they won't ask)
This is a GH mutated analog. Binds GH receptor but does not stimulate intracellular signaling. Reduces IGF-1 but NOT GH.

The patient is started on octreotide and 18 months later develops abdominal pain.

Which of the following are the most likely cause of his pain?

1. Symptomatic cholelithiasis
2. Peptic ulcer disease
3. Pancreatitis
4. Drug-induced hepatitis
5. Splenic microocclusive disease

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Which of the following are the most likely cause of his pain?

Symptomatic cholelithiasis: inhibits CCK → stasis
Peptic ulcer disease: inhibits gastrin
Pancreatitis
Drug-induced hepatitis
Splenic microocclusive disease: Sickle cell disease