Case 1
A 59-year-old woman has had a 5 kg weight loss over the past 3 months. She exhibits decreased mentation over the past 10 days. On physical examination she is afibrile. Bilateral papilledema is noted. A head CT scan shows marked diffuse cerebral edema with effacement of the lateral ventricles. Laboratory studies show a sodium of 108 mmol/L, potassium 4.0 mmol/L, chloride 83 mmol/L, CO2 14 mmol/L, glucose 82 mg/dL, and creatinine 0.5 mg/dL. Which of the following is the most likely to cause these findings?
A Small cell lung carcinoma
B Blunt head trauma
C Hypothalamic glioma
D Meningitis
E Pituitary macroadenoma

Case 2
A 21-year-old previously healthy woman has had a mild pharyngitis followed by a high fever over the past 24 hours. When seen in the emergency room, her skin shows extensive areas of purpura. Vital signs include temperature 39°C, pulse rate 110/minute, respiratory rate 22/minute, and blood pressure 80/55 mm Hg. Laboratory studies show a serum sodium of 115 mmol/L, potassium 5.3 mmol/L, chloride 92 mmol/L, CO2 22 mmol/L, glucose 42 mg/dL, and creatinine 1.1 mg/dL. Which of the following is the most likely diagnosis?
A Idiopathic adrenalitis
B Disseminated tuberculosis
C Systemic amyloidosis
D Sheehan syndrome
E Meningococcemia
F Hemochromatosis
Case 3
A 68-year-old man with a history of diabetes mellitus type 2 has noted the presence of bone pain, especially of his hands, for the past 8 months. On physical examination there is no swelling or redness of his hands, no joint deformity, but the range of motion is slightly decreased. Laboratory studies show sodium 139 mmol/L, potassium 4.0 mmol/L, chloride 98 mmol/L, CO2 22 mmol/L, glucose 103 mg/dL, creatinine 7.8 mg/dL, calcium 6.5 mg/dL, phosphorus 5.7 mg/dL, total protein 6.2 g/dL, and albumin 3.5 g/dL. Which of the following conditions is this man most likely to have?
A Adrenal adenoma
B Medullary thyroid carcinoma
C Extra-adrenal pheochromocytoma
D Parathyroid hyperplasia
E Pituitary adenoma

Case 4
A 33-year-old woman has had increased anxiety with headaches and diaphoresis over the past 2 months. On physical examination she is afebrile, with a heart rate of 90/minute and blood pressure 150/90 mm Hg. Laboratory studies show normal TSH and elevated urinary catecholamines. Her plasma cortisol level is normal. An abdominal CT scan is performed. At which of the following locations is a mass lesion most likely to be found?
A Aortic bifurcation
B Hepatic capsule
C Pancreatic tail
D Mediastinum
E Splenic hilum

Case 5
A 22-year-old man presents for an annual physical. On physical examination he is found to have a blood pressure of 170/110 mm Hg. Repeat BPs confirm HTN. Laboratory studies show a serum sodium of 146 mmol/L, potassium 2.3 mmol/L, chloride 103 mmol/L, CO2 27 mmol/L, glucose 82 mg/dL, and creatinine 1.2 mg/dL. Concerns?
Case 6

A 26-year-old woman has had difficulty concentrating at work for the past month. She is constantly getting up and walking around to visit co-workers. She complains that the work area is too hot. She seems nervous and often spills her coffee. She has been eating more but has lost 8 kg in the past 3 months. On physical examination, her temperature is 37.5°C, pulse 101/minute, respiratory rate 22/minute, and blood pressure 145/85 mm Hg. She has a wide-eyed stare and exophthalmos. Which of the following laboratory findings is most likely to be present in this woman?

- A Decreased catecholamines
- B Decreased iodine uptake
- C Decreased plasma insulin
- D Decreased TSH
- E Increased ACTH
- F Increased calcitonin

Question 7 - from DM lecture

A 57-year-old man is found comatose. On physical examination he has decreased skin turgor. Laboratory studies show a blood glucose of 780 mg/dL. Urinalysis reveals no ketosis or proteinuria, though there is 4+ glucosuria. Which of the following is the most likely diagnosis?

- A Neuroendocrine tumor secreting glucagon
- B Type I diabetes mellitus
- C Cushing syndrome
- D Ingestion of a large quantity of sugar
- E Type II diabetes mellitus

Case 8

A 33-year-old woman has noted a weight gain of 6 kg over the past year. She has normal menstrual periods. On physical examination her blood pressure is 170/105 mm Hg. Abdominal striae are present. A serum electrolyte panel shows sodium 141 mmol/L, potassium 4.4 mmol/L, chloride 100 mmol/L, CO2 25 mmol/L, glucose 181 mg/dL, and creatinine 1.0 mg/dL. Which of the following radiologic findings would you most expect to be present in this patient?

- A 2 cm right adrenal mass with abdominal CT scan
- B 4 cm mass at aortic bifurcation with MR imaging
- C Multiple pulmonary nodules on chest radiograph
- D 10 cm cystic right ovarian lesion by abdominal ultrasound
- E 2 cm ‘hot’ thyroid nodule with Tc99 scintigraphic scan
Adrenal Lecture Questions - Case 9

A 50-year-old man has episodic headaches for 3 months. On physical examination his blood pressure is 185/110 mm Hg, with no other remarkable findings. Laboratory studies show sodium 145 mmol/L, potassium 4.3 mmol/L, chloride 103 mmol/L, CO2 26 mmol/L, glucose 95 mg/dL, and creatinine 1.3 mg/dL. Abdominal CT scan shows a 7 cm left adrenal mass. During surgery, as the left adrenal gland is removed, there a marked rise in blood pressure. Which of the following laboratory test findings most likely explains his findings?

A. Decreased serum cortisol
B. Decreased urinary homovanillic acid
C. Increased serum ACTH
D. Increased urinary free catecholamines
E. Elevated serum ANCA

Adrenal Lecture Questions - Case 10

A 45-year-old man has a 4 month history of nonfocal, generalized headaches. On physical examination he is found to have a blood pressure of 170/110 mm Hg. Laboratory studies show a serum sodium of 146 mmol/L, potassium 2.3 mmol/L, chloride 103 mmol/L, CO2 27 mmol/L, glucose 82 mg/dL, and creatinine 1.2 mg/dL. His plasma renin activity is 0.1 ng/mL/hr and his serum aldosterone 60 ng/mL. Which of the following is the most likely cause for his findings?

A. 21-hydroxylase enzyme deficiency
B. Adrenal cortical adenoma
C. Pituitary adenoma
D. Exogenous corticosteroid administration
E. Renal cell carcinoma

Adrenal Lecture Questions - Case 11

A 45-year-old woman with severe rheumatoid arthritis has been on chronic corticosteroid therapy for the past 15 years. She is admitted for an orthopedic procedure to correct joint deformity from her disease. She continues to receive her regular dosage of 5 mg of prednisone per day. Three days postoperatively, she develops an aspiration pneumonia with Klebsiella pneumoniae cultured from sputum. Five days following the surgery, she becomes obtunded. Laboratory findings at that time include: sodium 105 mmol/L, potassium 5.4 mmol/L, chloride 87 mmol/L, CO2 16 mmol/L, glucose 40 mg/dL, and creatinine 1.1 mg/dL. Which of the following complications is most likely to have occurred in this patient?

What is happening?
Case 12

A clinical study is performed of subjects from birth to age 80 years who were documented by laboratory testing to have hypocalcemia. The medical records of these subjects are analyzed and the disease conditions documented in these subjects recorded. A subset of these patients had hypocalcemia documented in infancy. Which of the following conditions is most likely to have been present in this subset of patients?

A Parathyroid carcinoma
B Vitamin D deficiency
C Chronic renal failure
D DiGeorge syndrome
E Parathyroid adenoma

Case 13

Blood relatives of individuals diagnosed with type 1 or type 2 diabetes mellitus are studied for 10 years. Laboratory testing for glucose and insulin levels and autoantibody formation is performed on a periodic basis. The HLA types of the subjects are determined. A cohort of the subjects who are 8 to 22 years old has no overt clinical illnesses and no hyperglycemia; however, autoantibodies to glutamic acid decarboxylase are present. Many subjects in this cohort have the HLA-DR3 and HLA-DR4 alleles. Which of the following pancreatic abnormalities is most likely to be found in this cohort of study subjects?

A Acinar acute inflammation and necrosis
B Acinar fibrosis and fatty replacement
C Islet amyloid deposition
D Islet hyperplasia
E Insulitis
F Normal islets in a fibrous stroma

Case 14

A 41-year-old woman presented to the endocrinology clinic with nail changes that had occurred over several months and hair loss that had progressively worsened over 2 years. Physical examination revealed dry skin, thickened and brittle nails with horizontal ridges marked hair loss with coarse hair and a diffusely enlarged thyroid gland.

Five years after appropriate treatment hair and nail changes resolved.

What are you thinking? What test(s) would you perform?
Case 15

A 39-year-old man has experienced diminished libido for the past 4 months. Review of systems indicates that he has had frequent headaches over the past 2 months. On physical examination, he is normotensive, has gynecomastia bilaterally, has normal-sized testes in the scrotum, and exhibits difficulty with peripheral vision. His visual acuity is 20/20 bilaterally. Laboratory findings show: Na+, 141 mmol/L; K+, 4.1 mmol/L; Cl–, 102 mmol/L; CO2, 25 mmol/L; glucose, 75 mg/dL; and creatinine, 1.2 mg/dL. Which of the following neoplasms is he most likely to have?

A. Prolactinoma
B. Carcinoid tumor
C. Medullary carcinoma
D. Pheochromocytoma
E. Renal cell carcinoma
F. Small cell anaplastic carcinoma