

Diabetes Disasters
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1 Hour

Course Objectives:

1. Attendees will be exposed to diabetes related systemic emergencies, including acute hypoglycemia, DKD and DHS
2. Attendees will learn risk factors that increase the risk of profound vision loss
3. Attendees will learn clinical strategies for preventing diabetes disasters

Introduction: Why things can go terribly wrong in diabetes care

- a. Clinician error
 - b. Patient non-compliance
 - c. Patient ignorance and/or lack of health care literacy
 - d. Artificially maintaining glucose homeostasis is a fine balancing act and requires input from patients, family and providers
 - e. Health care system is geared toward treatment rather than prevention
- II. Case 1: LHS – “The Horse is Out of the Barn”**
- a. 50 yo female with T2DM x 15 years on Medicaid
 - b. Moderate NPDR at initial presentation; didn’t know HbA1c ---> measures 12.4% in-office (on metformin + Glyburide); LPE 6 months and has never received formal diabetes education
 - c. Referred to endocrinology – started on insulin --->A1c down to the 7s but the retinopathy progressed to PDR
 - d. Next year – bilateral lower limb amputations & started dialysis
 - e. Next year – hand amputated secondary to hospital-acquired MRSA
 - f. The patient subsequently died from a heart attack at age 52
 - g. Lessons: get tight control soon after diagnosis; block RAAS; Think PPOD; Sometimes, things turn out very badly despite aggressive and appropriate therapy
- III. Case 2: Patient BS – “The Procrastinator”**
- a. “I lost the vision in my right eye 3 months ago and this morning the vision in my left eye is like a red fog”
 - b. T1DM x 12 years; substituted chromium piccolonate for Lantus 2 years earlier; borrows Novolog from his mom when he sees her
 - c. LPE 2 years; LEE 5 years; in-office glucose = 397 mg/dl & HbA1c = 10.1%; pt is a licensed EMT who was laid off 6 months ago
 - d. Dilation drops don’t sting
 - e. Fundus Images – PDR + VH + Traction RD
 - f. Referred to retinology, endocrinology, diabetes educator

- g. ESRD – Macroalbuminuria (> 300 mg albumin/g creatinine)
 - h. Lessons: inappropriate use of supplements can lead to disaster (T1DM requires background insulin); family can enable disaster; annual DFE is critical; prevention costs less than cure
- IV. Case 3: Patient JT – “Home Alone”**
- a. 79 yo male with T2DM x 21 years; No CVD; A1c was ‘too high’ so put on Lantus QHS and Apidra with meals; minimal NPDR; A1c = 7.1% (176 mg/dl average); Other meds include Crestor, lisinopril, 325 mg ASA
 - b. Patient lives alone next door to his son (a dentist)
 - c. During his eye exam, the patient relates that he experiences some nocturnal hypoglycemia and keeps candies next to his bed
 - d. Pt educated about CGMS & counseled to get a glucagon kit
 - e. Pt no-shows for follow-up appt with me 6 months later – the son is contacted later that day and reports fasting BG < 20; pt died
 - f. “Dead in Bed” syndrome – typically seen in young T1DM but occurring more in older pts on insulin who have hypoglycemia unawareness
 - g. Lessons: Acute hypoglycemia can kill; CGMS should be prescribed for pts on insulin who live alone; pts on insulin should have emergency glucagon
- V. Case 4: Patient RS – “Unlucky Bull’s Eye”**
- a. 22 yo pregnant female with T1DM x 5 years
 - b. “I scratched my eye with my insulin syringe”
 - c. 20/400 OD and 20/20 OS; Slit Lamp shows a small perforating corneal wound and a dense cataract OD; Seidel negative with IOP = 17 mm Hg
 - d. Management?
 - e. 1-day follow-up: “My eye is throbbing!” IOP = 47 mm Hg
 - f. Lessons: don’t recap syringes; systemic aminoglycosides are teratogenic; use a fluoroquinolone for topical antibiotics in pregnant pts
- VI. Case 5: Patient KR – “Classic Diabetes?”**
- a. 19 yo overweight female failed her driver’s vision exam
 - b. She drinks two “big gulps” of water within the first 10 minutes
 - c. Polyuria and polydipsia x 1 month; both parents have T2DM
 - d. In-office spot blood glucose (HemoCue 201) = 157 mg/dl (8.5 mmol/L)
- my thought: “it’s got to be diabetes”
 - e. BCVA is 20/40- and 20/50
- my thought: “it’s got to be cataracts”
 - f. Slit lamp exam appears normal
 - g. DFE shows healthy maculae and slight temporal disc swelling OU
 - h. Screening FDT
 - i. Other questions worth asking? Headache? Weakness? Changes in Menses?

- j. Psuedotumor cerebri? Call to local neurologist...”send her in just in case”
- k. MRI and urinalysis → DI secondary to intracranial mass
- l. Treatment & Outcome
- m. Lessons: second guess and confirm clinical impressions; image patients with swollen optic nerves; sometimes the patient is ‘cured’ but dies

VII. Case 6: Patient GN – “Disaster Averted”

- a. 64 yo male with T2DM x 4 years; multiple MIs & triple CABG surgery; moderate NPDR
- b. HbA1c has not been < 8% for the last 4 years – patient is very frustrated and swears compliance with meds and 1700 calorie ZEST diet
- c. Meds: enalapril, amlodipine, Crestor, 325 mg ASA, Lovaza, metformin, insulin (Levemir QHS and Novolog with meals)
- d. Call to endocrinologist: “this guy is non-compliant”
- e. Examination of the blood glucose log book: good pre-prandial numbers but lousy post-prandial numbers
- f. Question: “When are you taking your insulin?”
- g. Outcome: HbA1c dropped from 8.7% to 6.9%; total insulin dosage reduced from 250 units/day to 150 units per day; DR stable (so far)
- h. Lessons: timing of meals and medications is important; looking at a patient’s glucose log book can be very helpful; asking basic questions can make a big difference

VIII. Questions?

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