7/15/24 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Maddy Case Discussants: (@) Hui Ting and (@) Dr Ricardo Correa

CC: 52 yrs old with elevated blood glucose (400)
HPI:
2 days prior the patient went to his primary for increased frequency of urination. Labs drawn at his outpatient visit showed a glucose of 400. The wife called the nurse who said that the patient should go to the ED

Over the past 3 months , the patient has noted increased frequency and volume of urination . It worsened recently which is why he presented to his PCP 2 days before the current admission.

He also noticed blurriness of his vision and fatigue .
ROS: no recent illness, no CP, SOB, abdominal pain, nausea or vomiting

PMH:
asthma
T2DM 6.8% last HbA1c

Meds: asthma med - inhaled CS/LABA

Fam Hx: no DM

Soc Hx: lives in denver, works in restaurants

Health-Related Behaviors: **no alcohol no drugs**

Allergies: NKDA

Vitals: T: 36.3 **HR:** 89 **BP:** 127/89 **RR:** 98% RA BMI 30
Exam:
Gen: non in acute distress,
HEENT:
CV: No murmur
Pulm: CTAB
Abd: soft non tender

Notable Labs & Imaging:
Hematology:
WBC: 8.5 Hgb: 15.7 Plt: 213
Fingerstick : 600

Chemistry:
Na:127 K 4.5: Cl:97 HCO3: 16 BUN: 11Cr: 0.86 AG14 glucose: Ca: Mag: Hb1Ac 12
VBG: pH: 7.34, PCo2 36, Beta 41.7 , Serum osm 310 ,urine osm 708
Ua : 3+ ketone, 4+ GLc , neg protein, neg nitrite, SG: 1.037
DKa protocol started:
BMP q4 and NPO until AG closed
then transitioned to routine basal/bolus C-peptide:
DKA resolved but patient remained hyperglycemic with sugars in 200-400 despite frequently up titrating glargine and lispro
Endo consult: Glargine 40 uBID Lispro increased from 10base to 15+3:50>150 → Final doses: uptitrated to glargine 40uBID and Lispro 20+3:50>150
Anti GAD neg
Islet cell Antibody: neg
Insulin antibody: neg

Dx: Mild DKA in patient with type 2DM. Type 2 DM with significant insulin resistance.

Problem Representation: 52 Yo/M p/w elevated blood sugar; h/o polyurea, polyphagia, vision loss over last 3 months, found to have hyponatremia, AGMA, while Antibodies negative.

Teaching Points (Parisa):
Symptoms of hyperglycemia: polyurea, polydipsia, polyphagia, weight loss; Type 2(m.c.c); Type 1(Insulin dependent younger); maturity onset diabetes in young (MODY) ; latent autoimmune diabetes (LADA)
Persons with obesity need screening HbA1c yearly
HbA1c regular Hb getting glycosylated with sugar in 3 months
Normal <5.7; Prediabetes 5.7-6.4; DM > 6.4.
False positive: Polycythemia vera; anemia
Rule out other causes in rapid HbA1c increasing: pancreatic diseases ; Cushing's (uncontrolled); acromegaly
Autoimmune antibodies: anti GAD(75%) ; anti islet; anti insulin; anti syntrasnporters
Hyperglycemia: HHS (hyperosmolarity, no ketone, insulin preventing ketoacidosis, 10-12 L water loss) ; DKA(no insulin, T1DM, 4-6L water loss)
Management: fluid replacement; Insulin; K
Pseudohyponatremia : due to dilution
K replacement: insulin shift K into cells→If K <3.5 first replace K then insulin; 3.5-5.1 add K/insulin; repletion not required K>5.1
Long acting insulin (Glargine/Lantus; last 22-24 h; no peak; expensive; Levemir 18-20h; Tresiba/Degludec; last 42h, Icodec)
Short acting peak 4-6; Lispro; Aspart; onset of action 30 min/ Fiasp (Faster-acting Insulin Aspart) → before each meal
Intermediate last 12 hr NPH; regular; 70/30 Insulin
Severe insulin resistance required> 200 unit/day replace it with U500; 5x concentrated insulin; last 12 h; twice/day;
Semaglutide(ozempic): weight loss; glucose control; Cardiovascular benefits
DM: Random > 200; fasting > 126 twice
Insulin pump helping in management T1DM; adjustment hourly; continuous glucose monitoring (**CGM**)