ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM

Demographic and Administrative Information

Name: VP
Address: 145-14 53 street
Woodside, NY
Date of Birth: 4/10/1950
Height: 167.64 cm (5'6") Weight: 113.9kg
Gender: Male

Patient ID: 351356
Room & Bed: Outpatient Diabetes Clinic
Physician: Tanner
Pharmacy: Unique Chemists
Race: Hispanic

History of Present Illness

Patient presents to the diabetes clinic after not being seen for 4 months due to his noncompliance with clinic visits. At his last clinic visit (8/28/07) his fasting finger stick revealed to be 155 mg/dL, and he was instructed to take repaglinide 2 mg tid as opposed to bid and start taking exenatide 5 mcg SQ bid to simultaneously assist in weight reduction. In addition amlodipine was increased from 5 mg daily to 10 mg daily for additional blood pressure lowering. He appears anxious, agitated, and sweaty, with edema of the feet. He reports to the nurse that he doesn't feel right.

Vitals & Other Tests

	12/1/07 (today)	8/28/07
BP mmHg	146/88	158/90
HR	74	78
Blood sugar (finger stick) mg/dL	55	155
Actual Body weight	113.9 kg	106.9 kg

Past Medical History

Diabetes Type 2 (2002)
Hypertension (2004)
Dyslipidemia (2004)
Cerebrovascular accident –ischemic (2005)
Renal Insufficiency (2005)
Obesity (2001)

Chem (ALL FASTING)

	12/1/07	8/28/07
Na mmol/L	142	137
K mmol/L	4.0	4.2
Cl mmol/L	103	100
CO2 mmol/L	27	31
Gluc mg/dL	60	155
BUN mg/dL	57	43
SCr mg/dL	2.8	2.6
Calcium mg/dL	8.4	8.0
HbA1c	9.2	9.5
Albumin g/dL	3.4	3.6
AST units/L	25	17
ALT units/L	20	13
Total Bili mg/dL	0.2	0.2
Dir Bili mg/dL	0.1	0.1

Family History

Father: alive (age 85); MI at age 65, HTN, dyslipidemia, type 2 diabetes
Mother: alive (age 82); type 2 diabetes; hypertension
Sister: alive (age 47); HTN, Impaired Fasting Glucose
Brother: alive (53); type 2 diabetes; hypertension

Urinalysis

Appearance: clear
Color: amber yellow
pH: 6.2
Protein 172 mg
Specific gravity: 1.010
Leukocyte esterase: neg
Ketones: none
Nitrites: none
Glucose: negative

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PHARMACIST'S PATIENT DATA BASE FORM (Cont.)

Social History

Tobacco: denies
ETOH: denies
Illicit Drugs: denies
Caffeine: denies
Occupation: retired
Status: married
Children: none
Physical Activity: limited ambulation
Diet: reports to eat cake a few times a week; wife reports that he does not adhere to diet, and eats anything he wants
Other Conditions: dyslexia, low literacy (speaks English fluently, and reading capability is below average)

Fasting Lipids

	12/1/07	8/28/07
Total –C	267	256
Triglycerides	482	280
LDL	-	178
HDL	22	22

Physical Exam (12-1-07) – Today

Obese hispanic male appearing anxious, agitated, sweaty, with limited ambulation.
VITALS: BP 146/88; HR 74; T 98.8; RR 18
SKIN: Normal in appearance and texture; noted sweaty appearance
HEENT: Pupils equally round, 4 mm, reactive to light and accommodation, sclera and conjunctiva normal.
LUNGS: clear bilaterally with no wheezing, no ronchi, no rales
CARDIOVASCULAR: Normal carotid pulsations without bruits. Normal S1 and S2. No S3 or S4.
ABDOMEN: normal
EXTREMITIES: 2+ pedal edema
NEUROLOGICAL: cranial nerves II – XII intact, deep tendon reflexes, muscle tone and strength, coordination and gait, reflexes, and sensory normal

Allergies/Intolerance's	**Prescription Coverage**
Diarrhea secondary to metformin administration	Insurance: HIP (Health Insurance Plan)
	Copay: $10.00
	Cost per month: ~$100.00/month

Current Drug Therapy

Drug Name/Dose/Strength/Route	Prescribed Schedule	Duration Start–Stop Dates	Compliance/Dosing Issue
1. metoprolol tartrate 50 mg	1 PO bid	5/07/05 - present	
2. amlodipine 10 mg	1 PO daily	3/28/07 - present	
3. simvastatin 40 mg	1 PO daily	7/20/06 - present	
4. lisinopril 10 mg	1 PO daily	2000 - present	
5. aspirin 81 mg	1 PO daily	2000 - present	
6. exenatide 5 mcg	5 mcg SQ bid	3/28/07 - present	Receives drug company assistance
7. repaglinide 2 mg	1 PO tid	3/28/07 - present	
8. glyburide 5 mg	1 PO bid	5/07/05 - present	
9. pseudoephedrine 30 mg	1 PO prn	7/24/07 - present	Purchased last week for cough and cold and is currently still taking.

Medication History

At the last clinic visit (8/28/07), repaglinide was increased from 2 mg bid to tid; exenatide was initiated for the additional benefit of weight loss; and amlodipine was increased from 5 mg daily to 10 mg daily. His wife reports that she gives him his medications whenever she is at home (she works 10 hour days), however he at times opts not to take them. When she is not there to assist him with taking his medications she feels that he is non compliant, since numerous times she finds his pills for the day left in the medication box that she prepares weekly for him. Also, she reports that on multiple occasions he refuses his evening exenatide injection. In addition, she reports that she worries about leaving him home alone because he has experienced hypoglycemic events in the past. His wife also reports that he took all of his medications this morning. When the patient was queried what his breakfast usually consists of, he reports that usually he skips breakfast (as he did this morning).

ASHP Clinical Skills Competition - Pharmacist's Care Plan

Evaluated for competition

Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Drug induced hypoglycemia	**1**	• Return plasma glucose levels to desired range (90-130 mg/dL) • Relieve signs and symptoms of hypoglycemia (anxious, agitated, sweaty) • Correct underlying cause (skip repaglinide dose if skip meal)	• Administration of glucose (15–20 g) o any form of carbohydrate (glucose tablet, juice) that contains glucose may be used +/- send patient to ED and administer IV dextrose AND • Due to h/o noncompliance with taking medication(s) and following instructions, o discontinuation of repaglinide is recommended; since hypoglycemia is in result to the patient skipping meals (in this case specifically breakfast) and taking repaglinide regardless.	• Finger Stick > 70 mg/dL q 15 minutes • Resolution of hypoglycemic symptoms (anxiety, agitation, sweatiness)

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints

Type 2 Diabetes	**2**	• Prevent diabetes related complications; microvascular (retinopathy, nephropathy, neuropathy) and macrovascular (CVD, PAD) complications
		• A1C < 7%
		  • Fasting Blood Sugar 90 – 130 mg/dL
			• Discontinue repaglinide due to consistent hypoglycemic events, (also not recommended to be used concomitantly with sulfonylureas)
			AND
			• Discontinue exenatide due to poor renal function (not recommended with CrCl < 30 ml/min)
			AND
			• Discontinue glyburide (not recommended in patients with poor renal function [CrCl < 50 ml/min] due to active metabolites)
			AND
			• Initiate insulin glargine 7.5 units *or* insulin detemir 7.5 units (75% of 10 units in renal compromised patients) at bedtime *or* NPH 7.5 units and adjust weekly based on fasting blood sugar values from the preceding 2 days.
			AND/OR
			• Initiate regular insulin or insulin lispro 7 units 15 minutes before breakfast, lunch, dinner [TDD: 28.5 units; 25% reduction in dose in CrCl 10-50 ml/min= 21.5 units]
			OR
			• Januvia 25-50 mg daily (CrCl <30 ml/min) initiate at a lower dose
			OR
			• Pioglitazone 15 – 30 mg daily (favorable lipid profile)
			OR
			• May consider starting glipizide XL
				• A1C < 7% q 3 months
				• Self-monitoring of blood glucose (Finger stick blood glucose 90 – 130 mg/dL and postprandial capillary plasma glucose<180 mg/dl) three or more times daily for patients using multiple insulin injections
				• Urinalysis
				  o Prevent progression of micro/macroalbuminuria
				• Stabilization of Scr/prevent progression of kidney disease [Scr <2.8 mg/dL] q 3 months
				• Eye evaluation q annually
				• Foot evaluation q clinic visit
				  o Patient education should be emphasized about self-care and examination of the feet daily
				  o Monofilament pressure sensation at the distal plantar annually
				•

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Type 2 Diabetes (Cont.)			5 – 10 mg daily (before meal) since does not have an active metabolite; utilize caution if patient's CrCl continues to deteriorate to < 10 ml/min AND • Offer/provide diabetes education • Offer a consultation with a nutritionist • Follow up that the patient is scheduled to receive an annual flu vaccine and that he has received a pneumococcal vaccine. • Continue ASA 81 mg daily	
HTN	**2**	• BP < 130/80 mmHg • Reduction in CV and renal morbidity and mortality	• Reduce amlodipine dose back to 5 mg daily OR • Discontinue amlodipine since it may the culprit precipitating the peripheral edema AND • Increase lisinopril to 20 mg daily (from 10 mg daily) OR • Discontinue metoprolol and initiate labetalol 100 mg bid, and titrate as necessary every 2-3 days until target BP is achieved. OR **(BONUS)** • Discontinue metoprolol and initiate carvedilol 6.25 mg bid and titrate [12.5 mg bid then 25 mg bid], over 1-2 weeks until achieve goal BP (in some patients metoprolol may increase A1C- The GEMINI trial demonstrated a) an increase in A1C in patients taking metoprolol vs.	• BP<130/80 q 2-4 weeks • HR 60-100 q2-4 weeks • K >4.0 <5.5 q 3 months • Stabilization of Scr/prevent progression of kidney disease [Scr <2.8 mg/dL] q 3 months • Educate patient with the importance of monitoring blood sugars in order to avoid hypoglycemic events- based on the premise that beta blockers may mask the symptoms of hypoglycemia

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
HTN (Cont.)			carvedilol; b) carvedilol also showed improvement in insulin sensitivity and a decrease in the frequency of microalbuminuria *(JAMA 2004;292:2227-2236).* AND/OR • Discontinue pseudoephedrine since this medication may be contributing to the patients elevated BP today AND increase metoprolol to 100 mg bid. - Educate patient with the importance of seeking advice from his healthcare provider before buying OTC products as they may aggravate his underlying disease states. AND • Institute diet and exercise modification per the JNC 7 guidelines (e.g. limit salt intake to < 2.4 g/day (1 tsp daily)	
Dyslipidemia	**2**	• Prevent acute pancreatitis • Decrease CHD risk • Prevent MI	• Control blood sugars and continue simvastatin 40 mg daily AND/OR • Initiate gemfibrozil 600 mg bid and monitor signs and symptoms of myopathy / hepatotoxicity closely OR • Decrease the simvastatin dose from 40 mg to 10 mg at bedtime to avoid the potential drug-drug interaction with gemfibrozil (manufacturer recommends when simvastatin is used in combination with gemfibrozil, the simvastatin dose should not exceed 10	• Complete fasting lipid panel q month - TG < 150 mg/dl - HDL > 45 mg/dl - TC < 200 mg/dl - **BONUS:** - **nonHDL < 100 mg/dl** - **LDL < 70 mg/dl (CVA+DM+ metabolic syndrome = very high risk)** • ALT/AST/Tbili q 6 weeks - NLA recommends measuring AST/ALT

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Dyslipidemia (Cont.)			mg daily) OR • Initiate fenofibrate instead to avoid the potential interaction between statin therapy, since unlike gemfibrozil, fenofibrate does not inhibit glucoronidation. OR • Discontinue simvastatin and initiate - Option A: rosuvastatin 20 mg daily (23% TG reduction); (55% nonHDL reduction). Note: a 57% reduction in nonHDL is needed. - Option B: vytorin 10/10 mg daily AND • Initiate diet and exercise modifications per the NCEP ATP III guidelines	if patient presents with signs and symptoms of hepatotoxicity (i.e. fatigue, jaundice, lethargy, malaise) • CPK (at baseline, and/or if symptoms of myopathy present) • Muscle pain/weakness q clinic visit • Rhabdomyolysis- elevated CPK + Scr with cola colored urine • Lipase if patient is symptomatic (severe abdominal pain, fever, loss of appetite, or nausea).
Pedal edema	**2**	• Relief of pedal edema • Improve ambulation	• Reduce amlodipine dose to 5 mg daily OR • Discontinue amlodipine therapy AND • Initiate furosemide for resolvement of edema	• BP<130/80 q 2-4 weeks • K >4.0 <5.5 q 3 months • Scr <2.8 mg/dL q 3 months • Check blood sugars if initiate furosemide therapy • Check lipid panel if initiate furosemide therapy • Uric acid level if initiate furosemide therapy • Pedal edema resolution 2+ to 1+ • Return of weight to baseline (113.9 kg to 106.9 kg)

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Obesity	**3**	• Weight loss • Decrease CV risk • Decrease blood sugar, BP, LDL, TG • Increase HDL	• Fluid in lower limbs may be contributing to some of the weight • Caloric restriction of 12-15 kcal/kg daily • Increase physical activity (30 minutes daily) • Behavioral modifications (eating habits, stress) OR • After fluid retention resolves add Alli 60 mg tid + MVI during or 1 hour after fat containing meal	• Weight loss (1-2 lbs/wk) • Loose stools, flatulence, steatorrhea, bloating
Noncompliance **Low literacy**	**3**		• Educate patient with importance of taking all medications as directed • Utilize teach back mechanisms • Use lay words	