

TBL CASE 2, NEW DIABETIC

A 47 y/o man presents as a new patient to your clinic. He has not seen a physician regularly since leaving the military at age 25. He was recently evaluated at an insurance mandated health fair and was told that he had tested positive for diabetes and elevated blood pressure. He feels well, but is concerned about this test result. PMHx and PSHx are unremarkable. He smoked in his early 20s, but has not used any tobacco on 20 years. FHx is notable for diabetes in his mother and both maternal grandparents. He has a sedentary job in an IT call center and does not exercise regularly. He reports no troubling symptoms on ROS, specifically denying polyuria, polydipsia, and weight loss. Physical examination is notable for a BMI of 31, BP of 156/98, and an unremarkable physical examination. Labs from his recent workplace screening reveal:

Total Cholesterol 265

LDL 185

BUN 23

CR 0.8

Fasting Glucose 189

Residents will receive the above vignette before the TBL session, with instructions to anticipate a discussion of preventive care at the TBL session. The following questions, and a review of the case, will be presented at the beginning of the TBL.

Question 1: What additional testing and examinations should be done at this visit?

Initial diabetics should undergo fundoscopic examination, thyroid palpation, a comprehensive foot examination. Waist circumference measurement is ideal.

Labs required: A1C, triglyceride levels (if not included on recent lipid panel), LFTs, spot urine alb/cr ratio, serum cr and calculated GFR (done on initial labs in this case), TSH (due to presence of lipid problems)

Question 2: What are the components of a comprehensive diabetic foot examination?

- During the inspection, palpation of the dorsalis pedis and posterior tibial pulses is conducted
- The presence or absence of patellar and Achilles reflexes should also be noted
- Proprioception, vibration, and monofilament sensation is also determined

Question 3: What referrals are appropriate?

Ophtho, DM educator, Nutritionist.

Question 4: What specific lifestyle counseling would you recommend, and what body of evidence supports the effectiveness of these recommendations?

Per ADA counseling guidelines:

- Weight loss / Medical nutrition therapy
- Exercise (specific guidelines recommend ≥ 150 min / week aerobic exercise combined with resistance training)

Question 5: What vaccinations are due at this visit?

Hep A&B, PPSV 23, Tdap, influenza.

Question 6: What medication therapy do you initiate at this visit, and what evidence supports your recommendation? Discuss medication costs, expected clinical benefits, patient education, and expected side effects.

Metformin is generally the most appropriate medication to initiate in this asymptomatic patient without any major indications for alternate therapy. Team should discuss plan for monitoring effectiveness of metformin and plans for up-titration of dose based on clinical response. Statin therapy and antihypertensive therapy should also begin at this session.

Case – continued.

Your patient returns to follow up his diabetes. It has been six months since you initiated metformin, and he has had several titrations of his medications. He is currently taking 500mg of metformin three-times daily, having experienced nausea at the 1 gram BID dose. Sulfonylurea therapy was attempted, but was discontinued due to several episodes of hypoglycemia, one resulting in an ED visit. He has lost 5 pounds and is walking 30-45 minutes 5 days per week.

Current medications:

metformin 500mg tid

simvastatin 40mg qd

lisinopril 20mg qd

BP is now 128/78, BMI 30

Labs:

LDL 118, Tot cholesterol 205

A1C 7.8 (baseline was 8.9)

Alb/cr: 124

Question 1: What is the next best medication to add? Present two options for the patient to choose, and be prepared to discuss: What evidence supports this recommendation, what is the anticipated monthly cost of this medication, what are the most important side effects, and what clinical benefits do you anticipate? Complete attached therapeutics worksheet for each drug chosen.

Choices will vary, depending on whether the team targets cost, weight loss, patient compliance, or ease of use as the primary goals of therapy. Residents should be able to locate and discuss the ADA recommendations for medical therapy in diabetes (attached article and slides for reference) or find a comparable set of recommendations from an equally valid source.

Question 2: What will you set as a glycemic control goal for this patient, and what clinical evidence supports this recommendation? Prepare a 1 – 2 paragraph summary with references.

Team should discuss data from ACCORD and ADVANCE trials, as well as VADT trial. In general, the goal for this patient should be at or lower than 7% for A1c, potentially targeting <6.5 if it can be achieved without significant hypoglycemia. Guidance for choices should ideally come from or be comparable to the attached ADA position statement on standards of care.

Question 3: What scheduled screening / preventive services should this patient receive during ongoing follow up with you? What type of table / reminder system could help you accomplish these tasks in your diabetic patient population? Locate or develop a flowsheet that covers these goals.

Regular BP measurements, annual lipid profiles, ASA therapy once over age 50, urine albumin annually, annual dilated eye exam, annual neuropathy screen, annual comprehensive foot exam are essential components of ongoing DM care.

Preceptor Checklist Day 1

Team:

Preceptor:

Team identified the following items	Yes	Yes, w/ Prompt	No
Q1 Additional exam / labs:			
Eye exam			
Thyroid exam			
Foot exam			
Waist circumference			
A1C			
TG			
LFT			
Alb/cr ratio			
TSH			
Q2 Describe Foot Exam			
Palpate DP/PT pulses			
Patella and achilles reflex testing			
Proprioception, vibration, monofilament testing			
Q3 Referrals			
Ophtho, nutrition, DM educator			
Q4 Education			
Weight Loss/Nutrition Counseling			
Exercise recommendations – specific			
Q5 Vaccines			
Identified PPSV, Tdap, flu, and Hep A/B			
Q6 Medication Therapy			
Choose metformin			
Adequate discussion of risk, benefit, and cost			
Adequate dose titration plan discussed			

Comments:

Therapeutics Worksheet for TBL Exercises

Team:

Condition being treated:

Drug chosen:

Practice guideline used:

Cost of therapy (annual for chronic disease, total for episodic treatment):

NNT, based on trial data:

Outcome prevented (death, MI, hospitalization, etc):

Cost per outcome prevented (NNT x cost of therapy):

Published cost effectiveness, in dollars / QALY:

Attach most significant supporting studies and calculations.

CASE 2 HANDOUT 1

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CASE 2 HANDOUT #2

Case – continued.

Your patient returns to follow up his diabetes. It has been six months since you initiated metformin, and he has had several titrations of his medications. He is currently taking 500mg of metformin three-times daily, having experienced nausea at the 1 gram BID dose. Sulfonylurea therapy was attempted, but was discontinued due to several episodes of hypoglycemia, one resulting in an ED visit. He has lost 5 pounds and is walking 30-45 minutes 5 days per week.

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