

Addressing Disparities in Diabetes with Project ECHO: A Focus on Chronic Kidney Disease An Initiative Addressing Complex Diabetes Management in the Primary Care Setting



Session 2: February 16, 2022

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Submitted Case Presentation:

What adjustments can be made to preserve transplanted kidneys and improve glucose in a 54 year-old male with T2D and Stage 4 CKD?

Patient is a 54-year-old male with a 17-year history of type 2 diabetes (T2D) complicated by stage 4 CKD, recent AKI/ARF (late 2021). He had a renal transplant over 15 years ago. Most recent HbA1c (6.0%) is discordant with recent fasting blood glucose levels (in low 200s) in setting of anemia. Diabetes managed on basal insulin alone due to eGFR and formulary barriers. Hypertension managed on metoprolol 25mg. Other medical concerns include: concern depression, dyslipidemia, history of seizure disorder, GERD, BPH, vitamin D deficiency, anemia, chronic skin rashes ulcerations/abscesses. Most recent kidney biopsy showed normal vascularity. Being followed by multi-specialists (nephrology, heme/onc)

Kidney disease/cardiometabolic disease:

- **CKD:** s/p kidney transplant ~15 years ago and now stage 4 CKD; eGFR improved to 33 last month (previously 15 -29) after AKI/ARF in late 2021; recent kidney biopsy normal vascularity, negative hydronephrosis, some cysts cortical layers. Most recent Cr level 2.1
- **ASCVD:** yes
- **Heart Failure:** no
- **Hypertension:** yes
- **Hypercholesterolemia:** hypertriglyceridemia on simvastatin
- **Recent BP:** 127/70 **BMI:** 21 **Weight** 60 kg **Recent lipid panel:** TG 398, LDL 60, HDL 24
- **Diabetes:** Diagnosed with T2D 17-years ago with last HbA1c of 6.0% while hospitalized in late 2021 in AKI with most recent fasting BG in low 200s with discordant HbA1c; previously recorded HbA1c was 13.1% in 2019. Home blood glucose monitoring is a barrier.

Current Medication Management:

- Simvastatin (Zocor) 20mg
- Metoprolol ER 25mg
- Prednisone 5mg
- Tamsulosin (Flomax) 0.4mg
- Phenobarbital 32.4 mg BID
- Insulin glargine (Basaglar), 30 units/day
- Previously had used DPP4s, GLP-1 RAs and other medication (discontinued due to eGFR)

Glucose-lowering agent(s):

Social support and concerns: Concern for depression

- **Last PHQ-9:** declined **Last PHQ-2:** declined **Last Diabetes Distress Scale:** declined- not interested in engaging in depression screen
- **Barriers:** none reported
- **Support:** Resides with parents

Case Recommendations and Considerations:

CATEGORY	RECOMMENDATIONS	REFERENCES/RESOURCE LINKS
Social Determinants of Health (SDOH)	<ul style="list-style-type: none"> • GoodRx may also be used as tool in addition to pharmacist (if available in your clinic) • 340B pricing, when available, can help with affordability. Check with your pharmacist and community health center for applicability. • Consider evaluating if the patient has caretaking responsibilities for his parents and if he is limited in his capacity to care for them by his medical concerns 	<p>GoodRx</p> <p>340B Drug Pricing Program https://www.hrsa.gov/opa/index.html</p> <p>NKF Patient & Family Resources (Includes links to prescriptions and affordable healthcare)</p>
Behavioral Health	<ul style="list-style-type: none"> • Recommend referral to a psychologist or a behavioral health expert who can communicate with him/sister/other family members • Even without referral, engaging family members in this patient's care and understanding the reasons for his resistance to self-care (cultural, personal, 	<p>CDC Research Brief: Screening for Depression and Diabetes Distress in Adults with Type 2 Diabetes</p> <p>Diabetes Distress Resource Center For Providers</p>

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	<p>depression, etc) will help develop a therapeutic alliance to move forward</p> <ul style="list-style-type: none"> • It is important to determine severity of depression, if PHQ score warrants it, suggest an SSRI/SNRI or other agent (eg TCA) • Consider working with a social worker as an additional strategy to engage patient and family • Recommend that the patient increase physical activity; an explicit prescription for appropriate exercise could be beneficial (ex. 30 minutes of walking, 5-6 days per week) • Assess health literacy- and consider social work and/or use of interpreter 	<p>https://diabetesdistress.org/for-providers</p> <p>ADA: Psychosocial Care for People With Diabetes: A Position Statement of the American Diabetes Association</p>
<p>Glucose Monitoring, Set A1C + Glycemic Goals</p>	<ul style="list-style-type: none"> • Patient most likely has falsely low A1C (discordant) due to kidney disease, and looking at CGM values or BG values most likely more beneficial when assessing glycemic targets • In addition to glycemic targets, need to think of compelling indications independent of A1c when selecting pharmacotherapy • Consider FreeStyle Libre 2, or if patient has one, is he using consistently? If not, consider incorporating 1-2 fingerstick BG checks per day, rotating from fasting to prelunch to predinner etc. This might help provide a more accurate determination of overall glycemic control given concern for A1c discordance in the setting of anemia. • If personal CGM is a barrier, could consider periodic professional CGM 	<p>ADA Standards of Medical Care in Diabetes—2022 Abridged for Primary Care Providers (Table 6.3)</p> <p>DiaTribe: Limitations of A1c in Chronic Kidney Disease</p>
<p>Medication Therapy & Adjustments</p>	<ul style="list-style-type: none"> • Overall treatment approach should be to try to simplify his medication regimen <p>Antihyperglycemic medication adjustments</p> <ul style="list-style-type: none"> • While most likely would benefit from adding bolus meal-time insulin, may not be practical at current time given his current level of distress and lack of engagement in diabetes self-management- adding a pill or weekly injectable may be more in line with trying to simplify his medication regimen • Consider starting with SGLT2i (or DPP4i) over GLP1RA due to compelling indications that were reviewed. In his case of history of kidney transplant, 	<p>ADA Standards of Medical Care in Diabetes—2022 Abridged for Primary Care Providers</p> <p>DiaTribe: Your Guide to the 2022 Changes to the ADA Standards of Care</p>



	<p>DPP4i could be considered over SGLT2i event though inhibitors have not been properly evaluated in the transplant population</p> <ul style="list-style-type: none"> ○ For DPP4i, could consider linagliptin (Tradjenta) 5 mg. Linagliptin primarily relies on bile for elimination and can be useful for reducing post-meal glucose exaggerations. <ul style="list-style-type: none"> ● Metformin would probably not have significant glucose lowering effects but another option could be metformin 250 mg once or twice daily, via use of scored 500 mg tablets or 2.5 mL of liquid for patients with eGFRs below 40, but consistently above 20. In this case, serum creatinine levels is above 2.0 there is risk with this strategy despite other indicators of lactic acidosis being low. Metformin use should be in consult with nephrology if additional insulin or linagliptin is not possible. ● With low BMI, renal goals and diabetes, strongly recommend a dietary consult with a practitioner familiar with the food of his culture, if that is what is served in his home. <p>Antirejection and Antiseizure pharmacologic interactions</p> <ul style="list-style-type: none"> ● Antiseizure medication may be reducing the amount of circulating tacrolimus, causing implanted kidneys to come under immunological attack Obtain tacrolimus trough level to determine if drug interaction is significant. ● Consider cyclosporine (Neoral) in consult with nephrologist, if tacrolimus is consistently found to be below ideal concentrations versus adjustment of tacrolimus dose ● In general, phenobarbital should be avoided in kidney transplant patients, consider levetiracetam (Keppra) in consult with neurologist <p>Cardiovascular health medications</p> <ul style="list-style-type: none"> ● Optimize use of ACE/ARB and statin therapy (note that in general, the patient’s creatinine may rise and stabilize with the initiation of ACEi or ARB) 	<p>Decision algorithm for prescribing SGLT2i and GLP-1 RAs: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7646234/</p>
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	<ul style="list-style-type: none"> • Consider aspirin and a SGLT-2 inhibitor, with the understanding that SGLT-2 inhibitors have not been properly evaluated in the transplant population • Although some of these medications may be contraindicated per package insert due to low renal function/recent AKI, the benefits might outweigh risks. While eGFR currently > 30 suggests use of SGLT2i, even if it were <30, SGLT2i would not necessarily be contraindicated. In the CREDENCE randomized trial (with canagliflozin) eGFR < 30 was an exclusion criteria for starting SGLT2i but if eGFR fell below 30, patients were able to stay on therapy per study protocol and had absolute benefits for renal protection • Re-consider indications for metoprolol and risk of insensitivity to hypoglycemia. Consider possibility of transient hypotension as etiology of recent renal decline. 	<p>Secondary Analysis of the CREDENCE Trial</p>
<p>CKD Management Considerations</p>	<ul style="list-style-type: none"> • Degree of CKD is in part a manifestation of transplant vintage. Many medications to slow kidney disease progression are either not well studied/contraindicated in the transplant population and have reduced efficacy at this stage of kidney disease • Many drug/drug interactions to be concerned about with this patient; recommend a referral to nephrology to evaluate 	<p>KDIGO Diabetes CKD Guidelines (2020) https://cjasn.asnjournals.org/content/16/4/631.long</p>
<p>Risk Reduction</p>	<ul style="list-style-type: none"> • Refer to Behavioral Health recommendations above 	
<p>Diabetes Self-Management Education & Support (DSMES)/Follow Up</p>	<ul style="list-style-type: none"> ○ May need to first address mental health before engaging in DSME with patient and in interim can work with other family members who are helping care for him. ○ Advise family to not shame/blame the patient for his diabetes management and CKD 	<p>dStigmatize https://www.dstigmatize.org/</p>

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	<ul style="list-style-type: none">○ Evaluate if patient is overwhelmed with medical care and where there may be opportunities to help him simplify both his care and his daily life.	
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PLEASE NOTE that case consultations and submissions for ECHO Diabetes do not create or otherwise establish a provider-patient relationship between ECHO Diabetes Action Network, Med-IQ and/or any other clinician on the Addressing Disparities in Diabetes with Project ECHO faculty.