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PA-ACP Annual Scientific Meeting

Opening The Black Box:

Demystifying Dialysis Care for the Primary Care Physician

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What Makes Primary Care of Dialysis Patients So Challenging?

Learning Objectives

- **Describe the challenges and barriers to providing high quality primary care to the End Stage Kidney Disease (ESKD) on Dialysis population**
- **Discuss approaches to management of sequelae of ESKD commonly encountered by Primary Care Physicians**
- **Propose ways that Primary Care Providers can work through the health care system in collaboration with Nephrologists to improve the health of the ESKD/Dialysis Population**

Disclosures

- **No Financial Conflicts of Interest**
- **SVP Academic Affairs, Allegheny Health Network**
- **Hospital-Based Nephrologist and Internal Medicine Physician**
- **Masters Training in Health Policy and Quality Improvement**
- **14th year with Medical Education as Primary Career Focus**

Primary Care Challenges in ESKD

- **Complex Medical Issues with high concomitant chronic disease burden – often seeing multiple specialists, lots of hospital time**
- **Higher burden of social determinants of health**
- **Nephrologists provide large degree of primary care for Dialysis patients (convenience/familiarity) with varying degrees of comfort and competency**
- **Lack of EHR interoperability between health systems and dialysis facilities**
- **Starting Dialysis a major transition that may include insurance change (Medicare) and impact accessibility of other docs**

In the Literature... There's Not Much

- Prior studies suggest the most dialysis patients view the nephrologist as their Primary Physician
 - Holley, *AJKD* (1998) 31:574-83
- Prior attitudes that non-nephrologists may not be trained to provide primary care for this population
 - Zimmerman et al., *Neph Dial Transpl* (2003) 18:305-09
- 90% of nephrologists report providing primary care for their patients, but more recent studies (Wang et al., *BMC Neph* 2017) show greater involvement from non-nephrologist Primary Care Physicians with great variability in...
 - Services provided by each physician
 - Comfort levels by each physician
- This lack of role clarity drives care fragmentation and variable utilization patterns
 - Thorsteinsdottir B et al., *BMC Neph* (2017) 18: 322-29
- And so we see little evidence to support a view that current models of primary care and continuity improve outcomes in dialysis patients
 - Silver et al., *CJASN* (2020) 15:521-29



Wang et al., *BMC Neph* (2017) 18:274

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- Prior attitudes that non-nephrologists may not be trained to provide primary care for this population
 - Zimmerman et al., *Neph Dial Transpl* (2003) 18:305-09
- 90% of nephrologists report providing primary care to dialysis patients, but more recent studies (Wang et al., 2017) show greater involvement from Primary Care Physicians with greater patient satisfaction
 - Services provided by PCP
 - Comfort levels
- This lack of role definition leads to variable utilization of nephrologists
 - (Wang et al., 2017) 18: 322-29
- Recent literature supports a view that current fragmented care may not improve outcomes
 - (Wang et al., 2020) 15:521-29

FRAGMENTATION



Wang et al., *BMC Neph* (2017) 18:274

So What Happens in the HD Unit?

- **Adequacy of Dialysis and Dialysis Access**
- **Hypertension and Volume Management / CV Risk**
- **Anemia Management**
- **Bone and Mineral Metabolism / Fracture Risk Management**
- **Nutrition**
- **Preventive Care**
- **Transplant Eligibility**
- **Other Stuff (at the discretion of the Nephrologist)...**

Hypertension, Volume and CV Risk

- Salt intake is the largest driver of volume status and BP... Fluids are the cart, salt is the horse
 - If you can, look at patients' interdialytic weight gains
 - The most effective form of BP management is maintenance of target weight through diet and HD
- There remains considerable debate among nephrologists regarding optimal BP goals, monitoring and agents for dialysis patients – current data are mixed/inconclusive and more study is needed
 - Selection should continue to incorporate patient characteristics, CV status and availability
- You will see RAAS Blockade and Aldo Antagonists used in HF but more research is needed
 - Can still improve cardiac function or delay worsening
 - May also serve to preserve residual renal function (a/w survival)
- Ask if patient still makes urine – can still use diuretics
- Consider holding agents on HD days if intradialytic hypotension
 - There is an increasing use of midodrine to support BP during HD
- Statins do not reduce CV risk in dialysis patients and KDIGO recommends not starting in HD patients

Bone/Mineral Disease, Fracture Risk

- **Primary Driver of Fracture Risk is Renal Osteodystrophy**
- **Secondary Hyperparathyroidism a/w fractures, vascular calcifications (intermediate cardiac predictor) – goal is to contain PTH levels within a range defined for HD pts**
 - Normalization of PTH to non-CKD levels can cause hypocalcemia and low turnover bone dz
- **Treatment/Prevention consists of a (mostly) step-wise approach to achieve goal:**
 - Phosphate Control with diet and binders (Calcium and non-Calcium)
 - 25(OH) Vit D Repletion (Ergocalciferol) – this can worsen hyperphosphatemia!!!
 - Vitamin D Analogs (generally IV administered at HD) – more focused, less hyperphosphatemia
 - Calcimimetics – this can reduce calcium levels; lots of rebound issues if nonadherence exists
 - Subtotal (3/4) Hyperparathyroidectomy – last resort if autonomous PTH secretion persists
- **No role for Osteoporosis treatment in ESKD patients w/o history of fragility fracture**
 - Normal DEXA does not reassure
 - For those with fracture hx treating Osteoporosis is not indicated unless ROD ruled out (bone Bx)
 - Oral bisphosphonates are usually safe w/monitoring; newer agents unproven (watch Ca⁺⁺)

Anticoagulation for Atrial Fibrillation

- **No study of VKAs vs placebo exists in dialysis patients – risk/benefit ratio less clear**
 - Risk of thromboembolic events on AC stay high for dialysis patients, risks of bleeding are higher
 - Decision to anticoagulate remains controversial among nephrologists (Bansal, *AJKD* 2017)
 - It is reasonable to withhold AC out of abundance of caution in HD patients with relative CIs
- **Observational studies have hinted that apixaban may be as effective as VKAs with lower risk of bleeding**
 - Siontis et al., *Circulation* (2018) 138: 1519-29
- **Follow up RCT (ADAXIA – AFNET 8) demonstrates noninferiority of low dose apixaban but same bleeding risk compared to VKA**
 - Reinecke et al., *Circulation* (2023) 147(4):296-309
 - Other studies pending
- **Warfarin is associated with Calciphylaxis in dialysis patients, and use of apixaban may be reasonable as alternative, especially if patient has hyperphosphatemia and uncontrolled hyperthyroidism**

Peritoneal Dialysis – How is it Different?

- PD patients more likely to report having a PCP, but still less likely to see them
- Usually visit dialysis clinic monthly rather than thrice weekly
- Anemia and Bone/Mineral treatments given orally more than IV
- Patients generally experience less severe anemia (no blood loss during procedure)
- Nutritional/metabolic issues more commonly seen in PD:
 - Risk of multifactorial Protein Enteric Wasting (PEW), nutrients lost in dialysate
 - More commonly see hypokalemia in PD than hyperkalemia
 - Safer to use ACEI/ARB, and perhaps greater benefit
 - At risk for hyperglycemia when increasing dialysate glucose (to treat volume overload)
- Greater use of diuretics because residual renal function often exists
- Anticoagulation even more poorly studied in this population

Other “Pop Flies” to be “called”...

- Diabetes Care
- Vaccinations
- Cancer Screening
- Depression/Mental Health
- Pain Management
- Palliative and End of Life Care
- What else???



**“So where do we go
from here?”**

Medicare and ESCOs – Started in 2017

- **End Stage Renal Disease Seamless Care Organizations (ESCOs) are:**
 - Partnerships between a dialysis organization and nephrologist(s)
 - Additional docs (PCP, Endocrine, Surgeons) can be part of team
 - ESCO must have patient panel of >500 in market to be recognized
- **Accountable Care Organization (ACO) Model - shared risk**
 - The ESCO is responsible for all Medicare A/B spending on enrolled patients
 - ESCO shares savings or loss with CMS, adjusted by quality score
 - ~ Quality measure domains include preventive care, chronic disease and coordination
- **No difference in % of primary care presence for high vs. low-performing ESCOs in terms of finance and mortality**
 - Drewry et al., *CJASN* (2021) 16: 1522-1530
- **More studies are desperately needed!**

Summary

- **Dialysis care is highly complex and often poorly coordinated, leading to suboptimal outcomes and challenges to physicians**
- **At the federal level, efforts to better coordinate and define comprehensive standards of care for dialysis patients are nascent**
- **Dialysis units have additional resources and infrastructure that can be leveraged by primary care physicians with better awareness**
- **Primary Care Physicians who wish to remain engaged in their patients on dialysis care can take the initiative to reach out to dialysis centers and participate in co-managing many aspects of care**



Thank you!

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