Dialysis After Discharge: Transitions of Care for COVID-19 Positive Patients

Welcome & Opening Remarks

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Acute Kidney Injury: Transitions from Hospital to Outpatient Dialysis

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EPIDEMIOLOGY OF AKI

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Acute Kidney Injury Complicating COVID-19

- Data suggest that AKI complicates at least 0.5% of cases of COVID-19.
- Of patients with severe manifestations of COVID-19 requiring admission to the ICU, AKI is estimated to occur in 50-90% of patients.

Risk Factors for AKI Complicating COVID-19 Infection

- Age > 65
- Male sex
- Chronic Kidney Disease (elevated baseline serum creatinine)
- Hypertension
- Heart Disease (Coronary Artery Disease, Congestive Heart Failure)
Renal Replacement Therapy for AKI

• Reports from around the country indicate that as few as 20% of patients in the ICU with complications from COVID-19 require dialysis.
• Others report that as many as 90% of patients require dialysis.

Transitions: ICU to Convalescence

• Reports indicate that AKI is an important predictor of mortality among patients with severe manifestations of COVID-19 infection.
• Survival among these patients has been reported to range from 20-70%.
• Renal recovery may lag behind pulmonary recovery.
• Hospital dialysis staff has increased demands to meet the needs of these patients.
Recovery of Renal Function

- There are few reports to date regarding late recovery of renal function among survivors of COVID-19 infection complicated by AKI sufficient to require dialysis.
- There are no data reporting comparisons of dialysis modalities.

Estimating the Impact of COVID-19 on Dialysis Populations

- More than 9,000 patients with chronic kidney disease treated by dialysis have been infected by COVID-19.
- Mortality rates have been reported between 10-30%.
- Of the 1.2 million individuals in the US infected with COVID-19, AKI requiring dialysis occurs in 5,000-10,000.
- If half survive to hospital discharge, we will see a surge in survivors requiring outpatient dialysis.
COVID-19 Transitions in Outpatient Hemodialysis

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Transitions

• Generally some of the most dangerous times for patients
• Mitigating transition related disasters requires much of us
  • Careful attention from physicians and extenders
  • Multi-disciplinary team-based approach to address medical needs, social needs, dietary needs, rehab needs
  • Comprehensive and open communication
• Now must consider the health of family members as well
We don’t know.

• How do we identify contagious patients before they are symptomatic? (will that ever be possible?)
• How long do COVID positive dialysis patients or Healthcare Providers need to isolate before returning to their own clinics?
• How do we know if someone is immune and/or non-contagious?
• Once we have a vaccine, how do we know if it works in patients with kidney disease?
• How long do we practice universal masking and entry screening?

2 Categories

• COVID-19 in ESKD
• AKI-D from COVID-19
Isolation Policies

- No ideal testing policy
- Universal masking, hand hygiene, and front-door screening together yield low risk exposures
  - Is this the new normal?
- Isolate/Cohort similar patients
  - High Risk Exposure patients
  - PUI
  - COVID+

CDC – COVID-19 Outpatient Dialysis Facility Preparedness Tool

- Comprehensive 10 part checklist
  - Infection Control
  - Patient placement and isolation
  - Patient movement, waiting room planning
  - Environmental Cleaning
  - Visitor policies
“When Can I Go Back?”

- No ideal testing policy
  - Adherence to universal masking and infection control yields low risk exposures

- 2 options
  - Test based strategy – recovery of symptoms or passage of time plus at least 1 negative nasopharyngeal PCR
    - Some differences in how to handle COVID+ vs PUI vs High Risk Exposure patients
  - Non-Test based strategy – 72 hours symptom free and at least 10 days since symptom onset
    - Some would advocate stretching to 14 days

Infection Control Policy Adherence

- Possible Silver Lining
Transportation

- Public Transportation – No
- Vans/Ambulettes – No
- Ambulance – Yes but difficult
  - Medicare eligibility especially for ambulatory patients
  - Availability
- Timing – many isolation shifts are late in the day and into the evening
- Market-specific
- ESRD Networks

Nutrition

- Expect transient protein calorie malnutrition
- Need intensive dietician support
- Oral Nutritional Supplement Programs (ONSP)
- Compliance challenge
  - Consume on sight vs strict universal masking policy
Financial Stress

- Could be a delayed problem
- Job losses
- Prescriptions
- Transportation
- Food
- Shelter

Debilitation

- Especially increased volume in “hot zones.”
- Admission to SNF or acute rehab adds to transitions
  - Medication reconciliation
  - Transportation challenges
  - Communication
    - Especially as it relates to high risk exposures in nursing homes
- Patients may simply just need more ambulatory support in the clinic
Vascular Access Care

• Open for business – but not for COVID-19 patients
• Diligent surveillance and monitoring
• Diligent hygiene and infection control
• Unfortunately, access failure in this setting will require hospitalization in many locales

COVID-19 AKI-D

• “Will I recover?”
  • We don’t know
  • When to convert to ESKD
  • When to proceed with access planning
    • Or better yet – conversion to a Home dialysis modality
COVID-19 AKI-D Care Considerations in the Clinic

• Isolation protocols still apply
• Increased provider visit and evaluation frequency
  • Sometimes via telemedicine
• Monitor for recurrence of hypoxia
• Not seeing hypercoagulability once recovered
• Otherwise, care should be similar to that of general AKI-D patients
  • Although we still don’t really know

Uninsured COVID-19 AKI-D

• Will not qualify for Medicare with this diagnosis
• Back to the old days
• When are we comfortable certifying ESKD?
  • Possibly convert to Urgent Start PD?
ASN Advocacy

- Vaccine testing in this unhealthy group with obligate congregation
- Transportation policy
- ONSP waivers
- ESRD certification questions
- Research
- PD for AKI-D?

Get your reading glasses ready

- Much to learn, much to read
- Much will change
Reimbursement / Waivers for Acute PD

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PD Access Placement

• On March 26, 2020: the Centers for Medicare & Medicaid Services (CMS) released revised guidance stating that PD catheter placement is considered an ESSENTIAL surgery.
PD Access Placement

- Challenges remain due to local issues including:
  - Availability of surgeons or interventional radiologists familiar with PD catheter placement
  - Availability of Operating rooms or IR procedure suites
  - Local hospital administrative issues
  - Patients fears of going to hospital for procedures

Acute PD on Discharge

- With a recent surge in use of acute PD in COVID-19 hotspots around the country there are a rising number of patients who will require PD on discharge, however, there are many barriers that remain.
CMS does not reimburse home training for PD for AKI

- Members of the ASN, Alliance for Home Dialysis, and the major dialysis organizations have recently discussed with CMS to provide a waiver to allow PD for AKI during this crisis.
- Of note, there are some commercial payors that DO reimburse PD for AKI.

Transitions for Acute PD patients

- CMS Facility without Walls (Temporary Expansion Sites)
  - Expanded Special Purpose Renal Dialysis Facilities (SPRDF) designation
  - Furnishing dialysis services on the main premises waiver
Transitions for Acute PD patients

• Expanded Special Purpose Renal Dialysis Facilities (SPRDF) designation
• Can be utilized to provide in-center PD
  • Dialysis units with experienced PD programs and familiarity with urgent-start PD will find this transition to be relatively straightforward.
  • Patients can simultaneously receive treatment and training in center.

Transitions for Acute PD patients

• Furnishing dialysis services on the main premises waiver
• Utilized to allow PD for acute PD patients in a skilled nursing facility.
• CMS allows dialysis nurses to either train SNF staff or provide PD treatment themselves at the SNF.
  • Very few skilled nursing facilities are able to provide PD
  • Home dialysis nurses could become overextended during COVID-19
Outpatient Issues for PD

• Home Visits
  • CMS is waiving the requirement which requires the periodic monitoring of the patient's home adaptation, including visits to the patient's home by facility personnel.
  • This is critical for limiting exposure to COVID-19 for both patients and staff.

Outpatient Issues for PD

• Telehealth
  • Presently, CMS has provided waivers for the use of Telehealth for PD patients during the current public health emergency
  • This includes relief from the requirement of:
    • Initial 3 months face to face MCP visit post-home dialysis initiation
    • Face to face MCP visit once every 3 months
  • Questions remain on which waivers will remain after the COVID-19 crisis improves.
Outpatient Issues for PD

• Monthly Blood Draw
  • With expanded telehealth, the monthly blood draw for PD patients becomes a practical limitation.
    • Recent CMS guidance states that independent laboratories can bill Medicare through their MAC for the specimen collection fee.
    • However it is not clear if CMS will reimburse NON COVID-19 testing
    • We advise participants to check with their MAC to verify


Future Directions

• ASN has written a letter to Congress to advocate for further policy changes relevant for Acute PD transitions:
  • Provide emergency funding for care partners to help dialysis patients transition to home care.
  • Award grants to hospitals to perform PD access surgeries and requisite nursing and patient education.
Transition of the Home Patient

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Objectives

• Outline disposition options for hospitalized COVID-19 patients with renal disease
• Review discharge considerations for the hospitalized patient
• Review SNF/LTAC limitations for dialysis patients
• Identify key steps to admitting home dialysis patients to an outpatient facility after COVID-19 hospitalization

Transitions and Readmission Risk for Home Dialysis Patients

• 4013 PD patients were matched to 8026 in-center HD patients
• The risk for a 30-day hospital re-admission among patients on PD therapy was higher vs HD patients (adjusted HR 1.19; 95% CI 1.08–1.31)
**Discharge Disposition**

- Acute Kidney Injury -> RRT
- CKD -> ESRD
- PD/HHD -> PD/HHD or IHD

**TRANSITION OF THE HOME PATIENT**

- **Hospital**
- **Skilled Nursing Facility**
- **Long Term Acute Care**
- **Dialysis Unit**
- **Home**

**Hospital- Inpatient due to COVID-19**

- Acute Kidney Injury requiring ongoing renal replacement therapy
  - CRRT vs HD vs acute PD
- AKI on CKD now progressed to ESRD
  - Pre-existing dialysis plan?
- PD or HHD patient admitted with COVID-19
Acute PD: Considerations For Discharge

- Disposition:
  - Home
  - Skilled Nursing Facility/Long-Term Acute Care
- Patient’s and/or Caregiver’s ability to perform PD at home and suitability of home?
  - Match-D assessment\(^1\)
  - Virtual Home Visit
  - If patient is NOT home PD candidate, CVC placement and discharge on ICHD
- Days since PD catheter placement (< 14 or ≥ 14 days)
  - Leak risk
  - Prescription modification
- Transportation to and from PD unit for PD and training

1. [https://homediaysis.org/match-d](https://homediaysis.org/match-d)

Why consider ongoing PD following AKI?

- Acute PD associated with higher rates of renal recovery\(^1\)
- PD is associated with maintenance of residual renal function\(^2\)
- Ability for patient to choose modality that fits their lifestyle
- Patient autonomy; patient empowerment
- Avoid central venous catheters
- Minimizes clinic exposure for COVID-19 positive patients

TRANSITION OF THE HOME PATIENT

**Acute PD at Outpatient Facility**

- Time of discharge vs date of catheter placement
  - <14 days: use lower volume
  - ≥14 days (and no leak): use volume based on BSA
- 3-5 days a week in Dialysis Facility for dialysis treatments
  - 8-10 hours CCPD vs CAPD
- Training occurs between dialysis treatment days
- Weekly labs and weekly 24H urine for creatinine clearance
- Exit site care with exit site antibiotic prophylaxis
- Monitor volume status; adjust dextrose for UF goals
- Home visit during training
- MD visit during training
CKD to ESRD

- Modalities education performed prior to admission?
- Existing dialysis access?
  - AVF/AVG vs PDC or embedded PDC
- Inpatient modalities education
- Consider Urgent Start PD

1. https://homedialysis.org/match-d

Maintenance PD or HHD

- Physical and Cognitive assessment re: ability to do home dialysis treatments
- Assessments of support at home and social worker evaluation
- If transition to in-center HD
  - PDC maintenance responsibility
  - Plan to return to PD/HHD
  - Transitional care environment
- Adjustments to previous outpatient prescription i.e. target weight
- Home visit (virtual or live) following discharge to assess safety
- Retraining for PD/HHD
- Ability to isolate at home and for treatments
Maintenance PD at Outpatient Facility

- Virtual Home Visit to ensure patient safe for home treatment
- Nursing assessment of patient and/or caregiver ability to perform treatments
- Establish new target weight
- Medication reconciliation
- Monitor volume status; adjust dextrose for UF goals
- Home remote monitoring
- MD visit after discharge
- High risk for readmission
- Transportation needs assessment
- Dietitian assessment of nutritional status

Discharge to Nursing Facility

- Does facility have PD/HHD capability?
  - Challenge: Most SNFs/nursing homes do not have on-site dialysis capability
  - LTAC may have on-site dialysis capability
- Rehab time vs. Dialysis time (AM vs PM)
- Nephrology oversight for prescription adjustment?
- Disposition from nursing facility to home with outpatient dialysis
  - Physical and Cognitive assessment if patient is able to perform home dialysis
- Home visit prior to discharge
- Dialysis facility involvement for home patient prior to discharge
- If patient was on ICHD with CVC but plans for PD after discharge, PDC care must be performed by nursing facility or dialysis unit

**Home Dialysis Clinic Admission Checklist**

- Medication Reconciliation
- Target Weight
- Dialysis access  
  - Date of Placement  
  - Surgeon
- Attending Nephrologist
- Initial Prescription
- PPD/Chest X-ray
- Hepatitis Serologies
- COVID-19 status/Contact Precautions
- Weekly Labs
- Dialysis Related Medications

**Cohorting Decisions for Outpatient Dialysis**

**Test Based**

- Resolution of Fever without use of medications **and**
- Improvement in respiratory symptoms **and**
- 2 consecutive negative results from FDA Emergency Use-Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA ≥ 24 hours apart

**Non-Test Based**

- At least 3 days (72 hours) have passed without fever and fever reducing medications **and**
- Improvement in respiratory symptoms **and**
- At least 10 days have passed since symptoms first appeared

Final Thoughts

• Future utilization of Acute PD after COVID-19?
• SNF/LTAC PD capability
  • Minimize transition to ICHD and CVC use
• Interventions to minimize readmission rates for PD/HHD patients
• Improved communication between inpatient and outpatient facilities
• Interdisciplinary assessments of post-discharge patients to reduce readmission and other adverse events
• Transitional care units\(^1\) for patients who have recently been hospitalized


Questions

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Closing Remarks

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