02/05/24 Rafael Medina Subspecialty VMR with @CPSolvers

"One life, so many dreams" Case Presenter: Dana Larsen (@dana_m_larsen) Case Discussants: David Li (@DavidYujieLi)

CC: Altered mental status in a pt with dialysis

HPI: 74 yo F with ESRD on continuous ambulatory peritoneal dialysis (CAPD), came to the clinic for increase confusion. According to her family, she was lack of independence in the recent days. The pt originally lived in SF, recently traveled to LA. Her family reported the pt was forgettable (eg, forgot to do the dialysis). The pt also noticed the PD fluid is cloudy.

ROS: neg for abd pain,no fever/chills, no n/v, no diarrhea, no constipation

PMH: ESRD, HTN, HLD, TB
Surgery: PD catheter 1 year ago

Meds:
Losartan, Metoprolol succinate, Atorvastatin, Renal Multivitamin,

Fam Hx:
HTN in mother side

Soc Hx:
Lived with his son and daughter, moved from Vietnam to the US as an adult. No pets.

Health-Related Behaviors: **none**

Allergies: none

Vitals: T: afebrile **HR:** nl **BP:** 110/ 60 **RR:** 21, on RA
Exam:
Gen: chronically ill appearing not acutely ill
HEENT: unremarkable. **CV:** regular rate rhythm **Pulm:** clear lungs **Abd:** soft nontender **Neuro:** fully oriented, no asterixis,
Extremities/skin: no erythema/induration/tenderness PD cath site.

Notable Labs & Imaging:
Hematology:
WBC: 6 Hgb:10 Plt: 270
Chemistry:
Na: 134 K: 3.5 Cl: 89 HCO3: 23 BUN: 77 Cr: 11 glucose: 120
GFR: around 3
PD fluid: Cloudy appearance, WBC 187 (27% Neutrophils), gram stain neg, bacterial cx on process.

D2: Empirical abx given, back to clinic. AMS no change, no abd pain, on dialysis, PD fluid: cloudy, WBC 88 (40% Neu), Cx no growth, fungal culture sent
D4: AMS same, PD fluid: still cloudy, WBC 700 (76% Neu), Cx no growth, vac trop 10, increased vac
D6: new diffuse abd pain, PD fluid: WBC 600 (95% Neu). Fluid collection found at cath site. ID and IR consulted. After cath removed, still on vac and cefepime, WBC trend down, treated for culture neg peritonitis
D16: PCR: TB positive; Cx neg; received anti-TB treatment, on HD, plan to switch back to PD after treatment finished.
Imaging:
CT (W/ contrast, D6): small fluid collection at PD cath site.
CT chest (D16): no active TB

Dx: TB peritonitis

Problem Representation: 74 y/o female with PMH of ESRD on CAPD, HTN, and TB migrated from Vietnam presenting chronically ill and with AMS.

Teaching Points (Parisa):

- Peritoneal dialysis → fluid will go through patients own peritoneal membrane/ more adaptive w/ patient schedule/ once/day.
- AMS in dialysis comes with initial broad ddx → MIST → history of cloudy dialysis → abdominal infection → peritonitis (common in PD pts).
- Most common complication of HD => think bacteremia
- **Initial work up**=> BNP, UA, CBC w/ diff, tap fluid cell count + diff + gram stain. Start empirical AB.
- Uremic exam findings=> asterixis, somnolence.
- Peritoneal fluid taken from PD: Optimal if 1L stays for 2 hrs in abdomen → cell count w/ Diff → **WBC >100, 50% PMNs gram stain culture**, if patient is still urinating, check UA, UC for UTI.
-Patients with PD are managed by residual urine out/ not Cr.
- Erythema, induration, tenderness at the cath exit site → Superficial subcutaneous tissue infection.
-**Treatment** => Vancomycin + ceftriaxone/cefepime + antifungal ppx (pts on PD rely on their GI flora, abx can shift flora towards yeast spp.)
- Bacterial peritonitis criteria →(⅔ +) WBC > 100 (50% PML); symptoms consistent w/ peritonitis; positive dialysis culture.
- If WBC does not decrease → Refractory/Recurrent → better after 5 days get/Relapsing improved 5 days within a month with same organism
- Worsening peritonitis despite AB => uncovering organism or do not have adequate source control (Cath infection) → Imaging → Check for abdominal abscess, PD cath-site for peri-catheter fluid stranding, abscesses.
Catheter removal needed when there is no source control! Check WBC ct after cath removal to assess abx coverage.
Imaging with contrast IV => can cause transient kidney injury due to osmotic and transiently decrease blood flow to kidney
- Unresponsiveness to AB + history of TB → AFB culture
- Always consider peritonitis in infections work up in patients with peritoneal dialysis