A Case of Peritonitis after Pelvic Exam

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PERITONITIS IN PERITONEAL DIALYSIS

- Remains a major contributor to mortality in approximately 15% of PD patients
- Moreover, peritonitis is an important cause of technique failure in patients on PD
- Given the recent renewed mandates for home programs, keeping the technique failure rates low is an important way to grow a home dialysis program
- Various risk factors known to be associated with its development
- Understanding such risk factors can allow clinicians to take precautions and minimize risks

IMPORTANCE OF KEEPING TECHNIQUE FAILURE RATE LOW

Perit Dial Int. 2014 Mar-Apr; 34(2): 171–178.
doi: 10.3747/pdi.2012.00165
PMCID: PMC3968102

Predictors of Peritonitis, Hospital Days, and Technique Survival for Peritoneal Dialysis Patients in a Managed Care Setting

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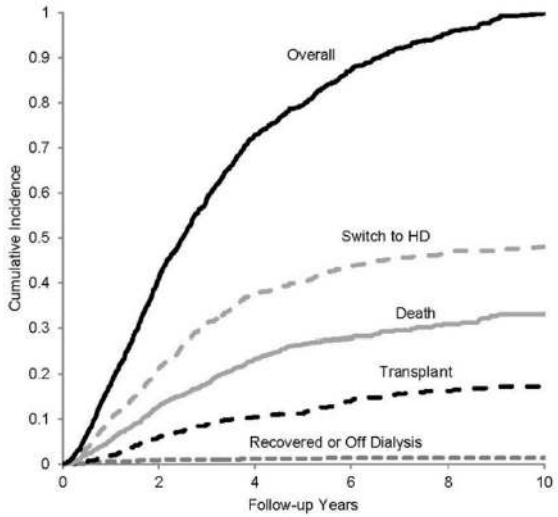


Figure 2 — Technique survival by competing risks. HD = hemodialysis.

ARA-DNA Peritonitis Rate is one every 102.24 months (0.12 episode per year), one episode every 8.52 years!

CLINICAL CASE

- Patient clinical history:
- 42-year-old Hispanic woman
- Past medical history of hypertension, end stage kidney disease secondary to hypertension, status post failed transplant, managed on peritoneal dialysis, and uterine carcinoma status post treatment with pelvic radiation, carboplatin, and total hysterectomy in 2019.
- No significant drug/tobacco use

CLINICAL CASE

- In April 2020, the patient underwent gynecology surveillance check with routine bimanual pelvic exam
- Two days later, the patient developed acute abdominal pain and fever which required hospitalization
- Peritoneal fluid analysis was performed upon hospital admission

PERITONEAL FLUID ANALYSIS UPON ADMISSION

Cell Count W/Differential

Source	PD Fluid			
Color	Colorless	N		[Colorless]
Appearance	Cloudy	A		[Clear]
WBC	1623	H	/mm3	[0-50]
RBC	19	H	/mm3	[0-0]
Polymorph Cells	63	H	%	[0-35]
Mononuclear Cells	36	L	%	[75-100]
Eosinophils	1	N	%	[0-2]
PANEL COMMENTS	Specimen source: PD Fluid			

CLINICAL COURSE

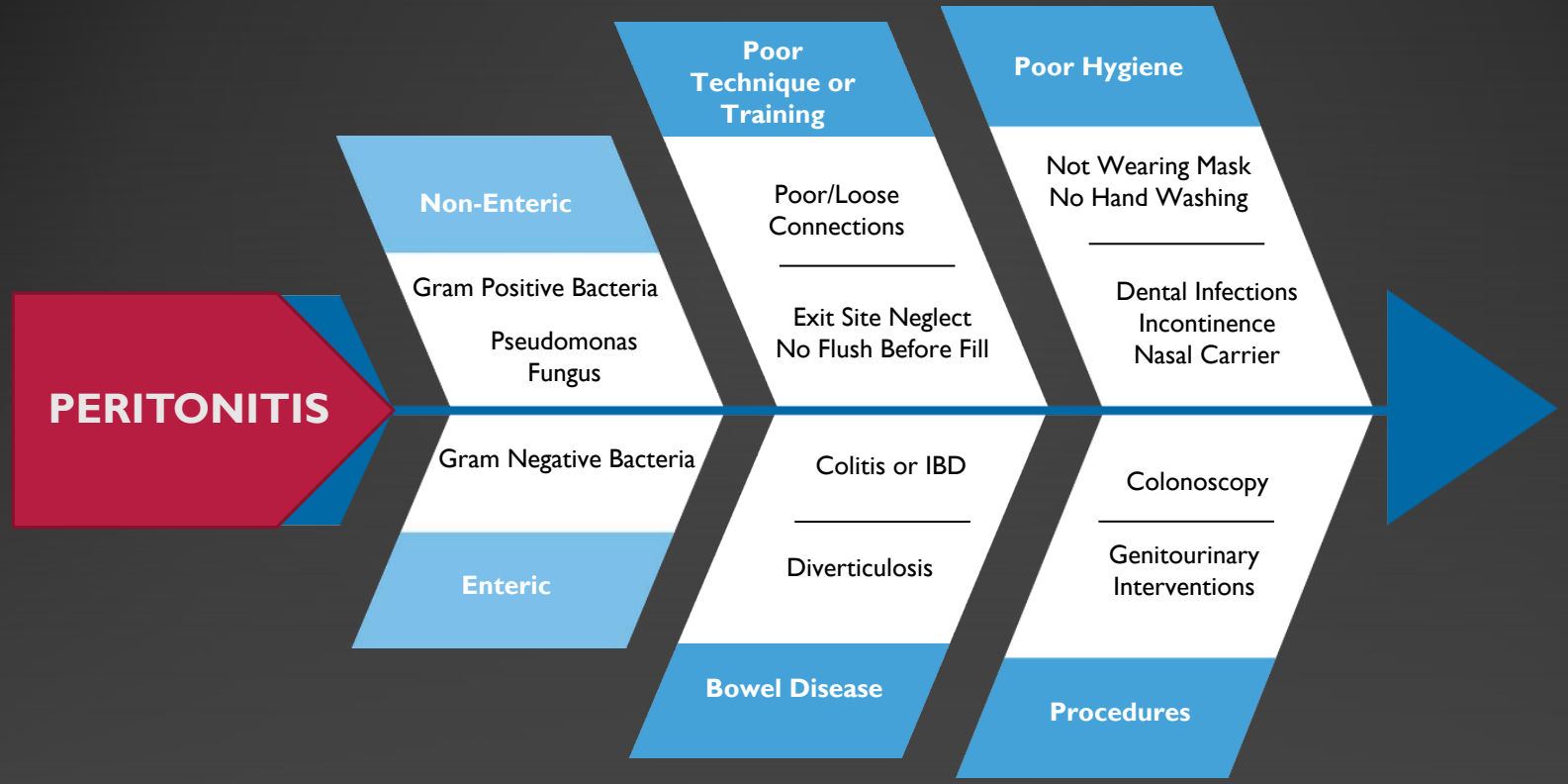
- Peritoneal fluid culture grew Klebsiella pneumoniae
- The patient was treated with two weeks of gentamicin, followed by one week of levofloxacin and fungal prophylaxis with fluconazole
- The patient improved clinically with repeat peritoneal fluid analysis showing resolution of peritonitis

PERITONEAL FLUID ANALYSIS AFTER TREATMENT

Cell Count W/Differential

Source	PD Fluid			
Color	Colorless	N		[Colorless]
Appearance	Clear	N		[Clear]
WBC	2	N	/mm3	[0-50]
Unable to perform differential. WBC is <=25/mcL.				
RBC	1	H	/mm3	[0-0]
PANEL COMMENTS	Specimen source: PD Fluid			

WHY DID OUR PATIENT DEVELOP PERITONITIS?



Modified from: Shetty, A. The Ochsner Journal 2014

DO WE THINK PELVIC EXAM IS A RISK FACTOR FOR PERITONITIS ?

DISCUSSION

- Various modifiable risk factors have been proposed for peritonitis among PD patients
- Gram negative organisms account for only 15-35% of all cases
  - Certain invasive gynecologic procedures such as hysteroscopy have been associated with peritonitis
  - Genitourinary-dwelling organisms have been described as causing peritonitis by entering the peritoneal cavity via the fallopian tube
  - Peritonitis has been seen following vaginal delivery in patients with chronic colonization of vaginal canal
  - Administering prophylactic antibiotics has been reported to be done successfully prior to such procedures, consistent with ISPD guidelines

DISCUSSION

- Enteric peritonitis
- Colonoscopy is known to increase risk
  - Risks may be lowered by giving prophylactic antibiotic prior to procedure, avoiding hypokalemia, and doing procedure with dry abdomen
- Enteric peritonitis also previously reported among patients with severe constipation and/or diarrhea

DISCUSSION

- Peritonitis after routine pelvic exam has not been reported in the literature

- A possible mechanism for this event in our patient may be related to her history of pelvic surgery and radiation, with possible adhesion formation and bacterial translocation from the GU tract to peritoneum

DISCUSSION

- Beyond attempting to minimize periprocedural risks, clinicians can provide meaningful patient education and training to prevent peritonitis

- Per ISPD guidelines, focus should especially be on promoting proper catheter exit site care with topical antibiotic, proper "flush before fill" technique, adequate training of nursing staff, and adequate training of patients in-center and at-home

DISCUSSION

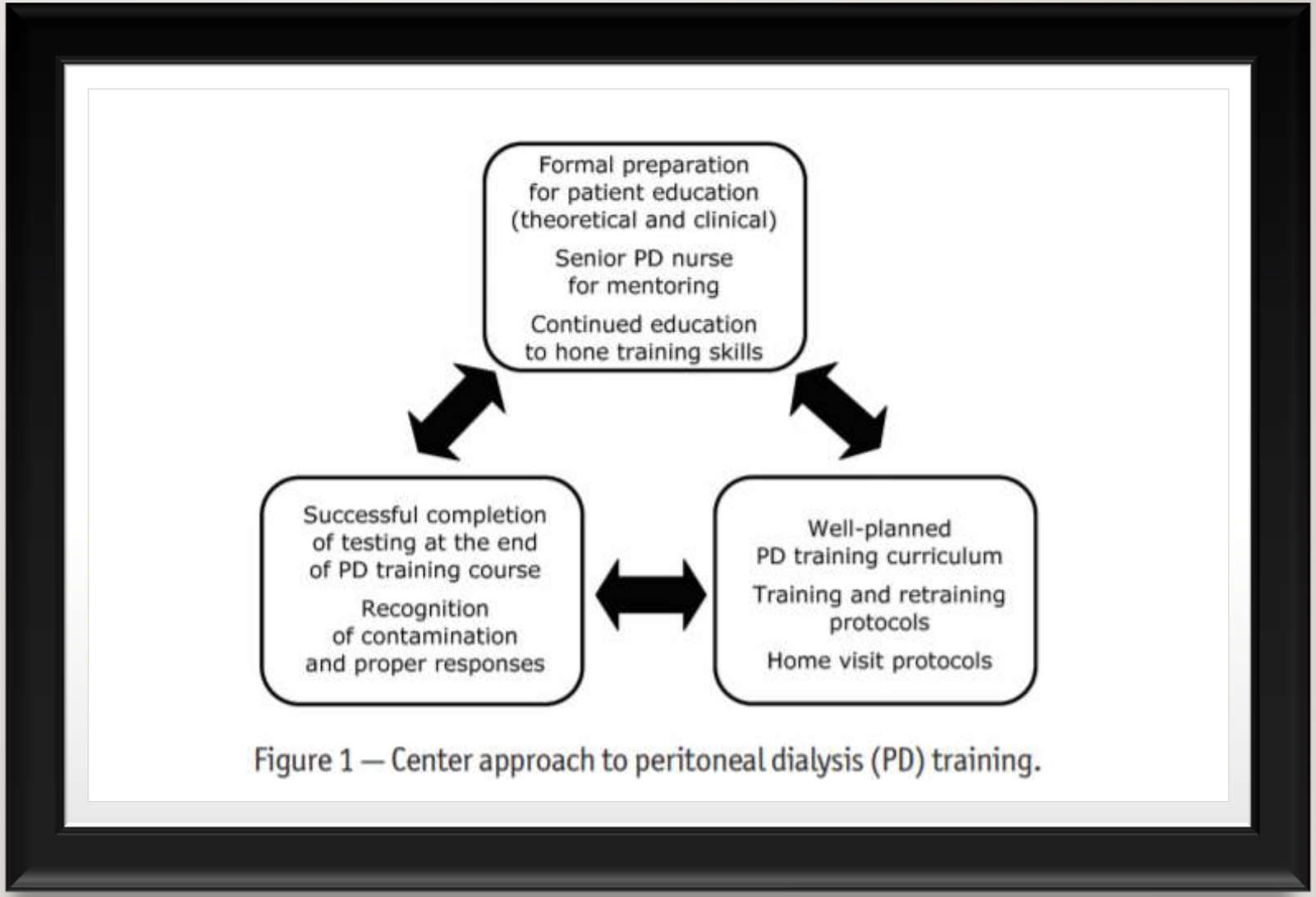


Figure 1 — Center approach to peritoneal dialysis (PD) training.

PATIENT FOLLOW-UP

- The patient remained clinically well after this episode
- Due to the patient's history of immunosuppression, pelvic radiation and multiple pelvic surgeries, it was decided to provide antimicrobial prophylaxis prior to all subsequent pelvic exams

CONCLUSION

- Minimizing peritonitis risks remains imperative for reducing morbidity and mortality in PD patients
- This should be done in accordance with ISPD guidelines and the patient's individual circumstances and risk factors

THANK YOU

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