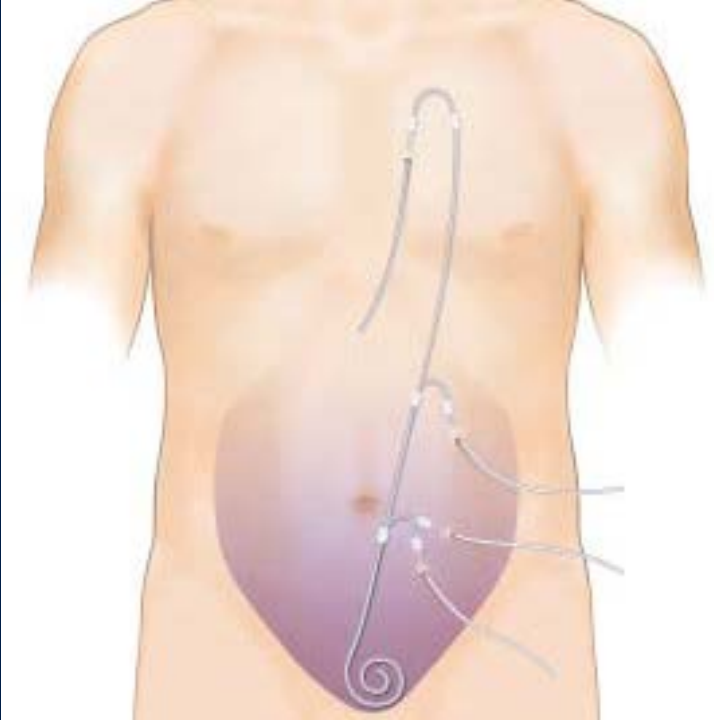


PERITONEAL DIALYSIS CASES AND TROUBLESHOOTING

PERITONEAL DIALYSIS
TRAINING PROGRAM



Medtronic
Further, Together

OUTLINE

- Case 1
 - Can't fill or drain (#1)
- Case 2
 - Ultrafiltration failure (#1)
- Case 3
 - "Drain pain"
- Case 4
 - Early fill problems
- Case 5
 - Ultrafiltration failure (#2)
- Case 6
 - Can't fill or drain (#2)

Case studies courtesy of Micah Chan, MD

CASE 1

CAN'T FILL OR DRAIN (#1)

- 20 year old male
- Cystinosis and ESRD
- PD catheter placed 4 weeks ago
 - Cannot fill or drain
 - No abdominal pain or cloudy fluid
 - BP normal range
 - No change in positional changes or manual drain
 - Regular daily BMs

CASE 1

CAN'T FILL OR DRAIN (#1)



Image courtesy of Micah Chan, MD

CASE 1

CAN'T FILL OR DRAIN (#1)

- What is the problem? What should you do?
 - a) Exchange catheter out
 - b) Try tPA

CASE 1

CAN'T FILL OR DRAIN (#1)

- What is the problem? What should you do?
 - a) Exchange catheter out
 - b) ~~Try tPA~~

SAMPLE PROTOCOL FOR FIBRIN

1. Mask(s)
2. Tissue plasminogen activator (tPA) in a concentration of 1mL as order by physician, depending on catheter and transfer set volumes

A. Catheter sizes and volumes

Catheter Size	Volume
31cm single cuff	1.7mL + transfer set volume
38.9cm swan neck	2.13mL + transfer set volume
43cm swan neck	2.36mL + transfer set volume
57cm curled	3.1mL + transfer set volume
59cm swan neck	3.23mL + transfer set volume
62.2cm swan neck	3.43mL + transfer set volume

B. Transfer set sizes and volumes

Set	Volume
Transfer set	2mL
Transfer set with universal connector	1.7mL
12" transfer set	2.3mL
18" transfer set	3.5mL

SAMPLE PROTOCOL FOR FIBRIN (CONTINUED)

3. Implementation

- A. Place mask on the patient and all person in the area
- B. Wash hands with soap and water for 1 minute
- C. Prepare tPA
 - i. Prep tops of tPA bottles and sterile water with betadine for 5 minutes
 - ii. Draw up 2mL of sterile water for each bottle needed
 - iii. Draw up proper amount of tPA into one syringe
- D. Remove existing cap on end of transfer set
- E. Instill ordered tPA into the catheter and leave syringe attached
- F. Wrap syringe and catheter in a sterile field
- G. Allow to dwell for at least one hour or as prescribed (masks may be removed)
- H. In dwelling more than 1 hour, place appropriate sterile cap/pin onto end of catheter

Please refer to your facility's protocol for administration of tPA

SAMPLE PROTOCOL FOR FIBRIN (CONTINUED)

3. Implementation (continued)

- I. After prescribed time, place mask on patient and all persons in the area
- J. Wash hands with soap and water for 1 minute
- K. Withdraw exact amount of tPA instilled, using attached syringe
- L. Connect dialysis tubing, as ordered
- M. Infuse ordered volume of dextrose solution and drain immediately
- N. Repeat *step M* if necessary
- O. If patient is starting dialysis, connect dialysis tubing and perform dialysis as ordered. If dialysis is not initiated immediately, place a new sterile cap onto the end of the catheter.

CASE 2

ULTRAFILTRATION FAILURE (#1)

- 40 year old male
- h/o ESRD due to DM and HTN
- On PD for 3 months
 - Having difficulty with drains
 - On CCPD with 4 exchanges of 1500cc fills and most nights negative UF
 - $Kt/V = 1.8$
 - Trial of 2.5/4.25% Dextrose does improve
 - No leaks
 - No abdominal pain
 - No subcutaneous bulges or hernia or SOB
 - Regular daily BMs

CASE 2

ULTRAFILTRATION FAILURE (#1)



Images courtesy of Micah Chan, MD

CASE 2

ULTRAFILTRATION FAILURE (#1)

- What should you do?
 - a) Exchange catheter out over the wire
 - b) Try to manipulate the catheter percutaneously
 - c) Refer to surgery for laparoscopic omentopexy
 - d) Refer to surgery to tack down catheter

CASE 2

ULTRAFILTRATION FAILURE (#1)

- What should you do?
 - a) ~~Exchange catheter out over the wire~~
 - b) ~~Try to manipulate the catheter percutaneously~~
 - c) **Refer to surgery for laparoscopic omentopexy**
 - d) ~~Refer to surgery to tack down catheter~~

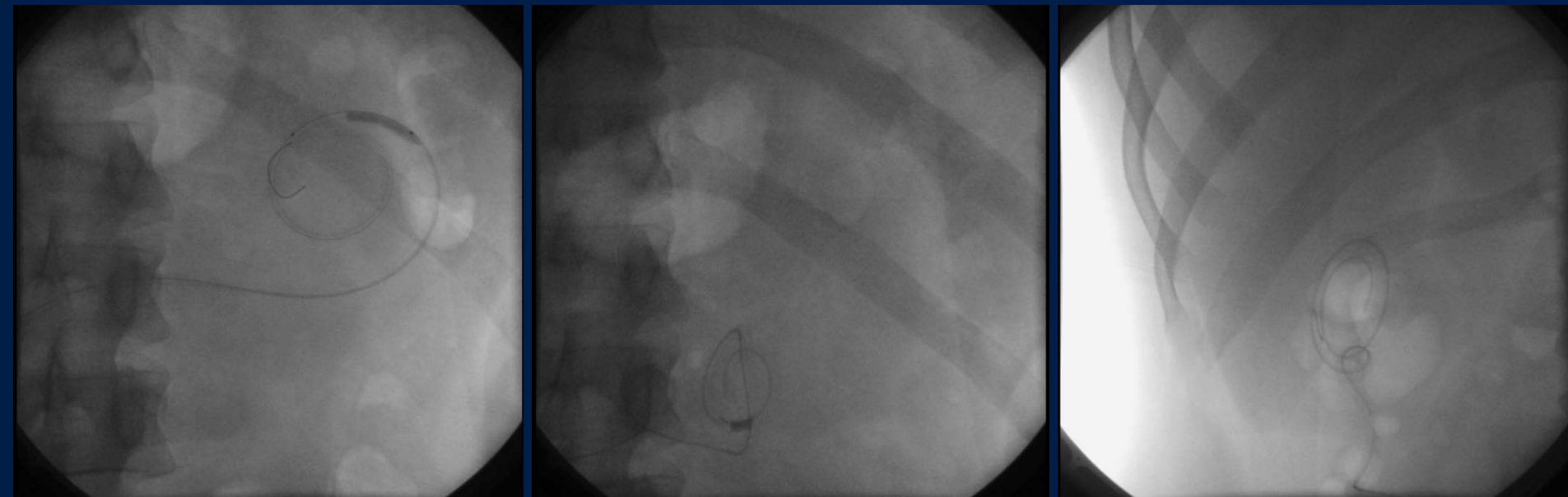
CASE 3

"DRAIN PAIN"

- 26 year old male
- h/o ESRD due to glomerulonephritis
- s/p failed transplant
- On PD for 1 month
 - Having pain with drains
 - On CCPD with 4 exchanges of 1800cc fills and most nights positive UF with 1.5% dextrose
 - $Kt/V = 2.5$
 - No leaks
 - No abdominal pain
 - Pain over left shoulder
 - Regular daily BMs
 - Does not improve with tidal volumes

CASE 3

"DRAIN PAIN"



Images courtesy of Micah Chan, MD

CASE 3

"DRAIN PAIN"

- What should you do?
 - a) Exchange catheter out over the wire
 - b) Try to manipulate the catheter percutaneously
 - c) Refer to surgery for laparoscopic omentopexy
 - d) Refer to surgery to track down catheter

CASE 3

"DRAIN PAIN"

- What should you do?
 - a) Exchange catheter out over the wire
 - ~~b) Try to manipulate the catheter percutaneously~~
 - ~~c) Refer to surgery for laparoscopic omentopexy~~
 - d) Refer to surgery to track down catheter

CASE 3 "DRAIN PAIN"

- Bladder, rectal pain



Images courtesy of Micah Chan, MD

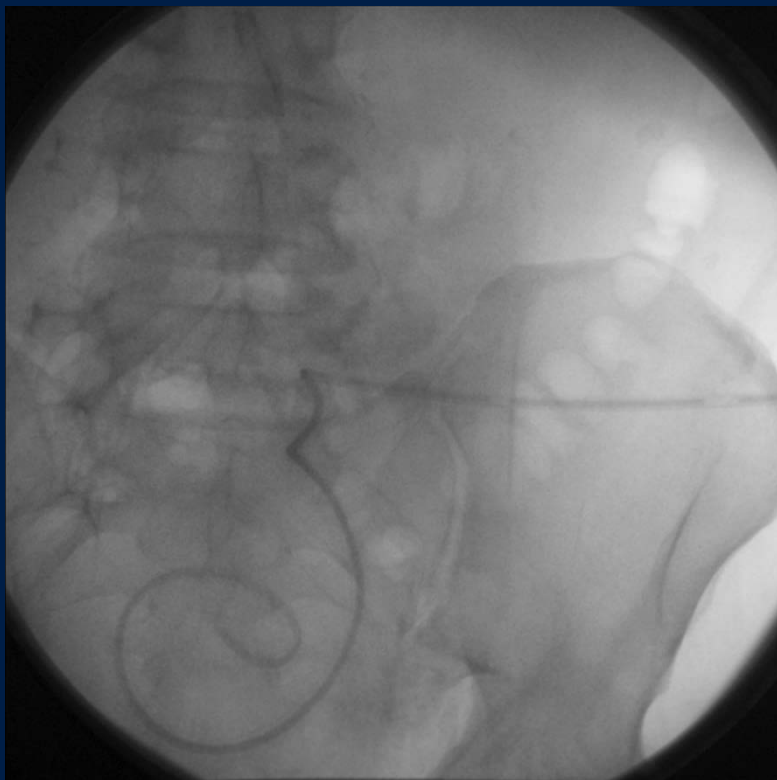
CASE 4

EARLY FILL PROBLEMS

- 62 year old male
- h/o ESRD due to ADPKD
- Laparoscopic PD catheter placed 2 weeks prior
 - Unable to fill with 1mL dextrose
 - No abdominal pain or fibrin
 - Trial of tPA ineffective

CASE 4

EARLY FILL PROBLEMS



Images courtesy of Micah Chan, MD

CASE 4

EARLY FILL PROBLEMS

- What should you do?
 - a) Exchange catheter out over the wire
 - b) Try to manipulate the catheter percutaneously
 - c) Refer to surgery for laparoscopic replacement
 - d) Refer to surgery for open replacement

CASE 4

EARLY FILL PROBLEMS

- What should you do?
 - a) Exchange catheter out over the wire
 - ~~b) Try to manipulate the catheter percutaneously~~
 - ~~c) Refer to surgery for laparoscopic replacement~~
 - ~~d) Refer to surgery for open replacement~~

CASE 5

ULTRAFILTRATION FAILURE (#2)

- 50 year old male
- On PD for 2 years with ultrafiltration difficulties
 - On CCPD with 4 exchanges with 2.5L fills over 9 hours
 - Last fill of 2.5L carried for 15 hours
 - Recent PET showed high average transport status
 - BP 160/90
 - 1+ pitting edema
 - Cycler records show initial drain of 1900 (last fill) and nighttime + UF of 750cc

CASE 5

ULTRAFILTRATION FAILURE (#2)



Images courtesy of Micah Chan, MD

CASE 5

ULTRAFILTRATION FAILURE (#2)

- What should you do?
 - a) Exchange catheter out
 - b) Recommend another PET and 4.25% dextrose in meantime
 - c) Increase number of cycles
 - d) Use 7.5% icodextrin as the last fill

CASE 5

ULTRAFILTRATION FAILURE (#2)

- What should you do?
 - a) ~~Exchange catheter out~~
 - b) ~~Recommend another PET and 4.25% dextrose in meantime~~
 - c) **Increase number of cycles**
 - d) ~~Use 7.5% icodextrin as the last fill~~

CASE 6

CAN'T FILL OR DRAIN (#2)

- 32 year old female
- h/o ESRD due to IgA nephropathy
- On PD for 4 years
 - Has a h/o 3 episodes of peritonitis in the last two years, most recently 2 months ago for *Pseudomonas aeruginosa* treated with cefepime for 3 weeks
 - Having difficulty with filling and draining
 - CCPD 5 exchanges with 2.5mL and last fill with icodextrin, high transport status
 - Last few days with increasing right sided abdominal pain with associated nausea and vomiting
 - No BM for 2 weeks
 - Trial of tPA ineffective

CASE 6

CAN'T FILL OR DRAIN (#2)



Image courtesy of Micah Chan, MD

CASE 5

ULTRAFILTRATION FAILURE (#2)

- What should you do?
 - a) Exchange catheter out over the wire
 - b) Take the catheter out and start hemodialysis
 - c) Refer to surgery for laparoscopic replacement
 - d) Refer to surgery for enterolysis and peritonectomy
 - e) Trial of prednisone with tamoxifen and everolimus and continue PD

CASE 5

ULTRAFILTRATION FAILURE (#2)

- What should you do?
 - a) ~~Exchange catheter out over the wire~~
 - b) Take the catheter out and start hemodialysis**
 - c) ~~Refer to surgery for laparoscopic replacement~~
 - d) ~~Refer to surgery for enterolysis and peritonectomy~~
 - e) ~~Trial of prednisone with tamoxifen and everolimus and continue PD~~

THANK YOU

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