Choice of Drain Systems and Associated Peritonitis Rates in Automated Peritoneal Dialysis Patients

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Introduction

Is there a higher risk of peritonitis with the use of drain lines or drain bags?

- 65% of large dialysis organization (LDO) patients use drain bags
- Objective: compare peritonitis risk between use of drain lines vs. drain bags.
Methods

- Standard algorithm for peritonitis surveillance\(^1\)

- All automated peritoneal dialysis (APD) patients Jan 2011 through Jun 2013
  - Only patients using 1 national supplier (~98%)
  - Patients ordering drain bags at least 2 out of 3 months classified as a drain bag patient, and patients consistently not ordering drain bags classified as a drain line patient

- Matched by patient identifier to drain system
  - Supplier ordering data
  - Removed patients with no clear system match
  - Final \(n = 15,532\) patients

Results: Patient by Patient

Incidence of Peritonitis (Mean ± CI)

Patient At-risk Months Between Cases of Peritonitis

Drain Bags

Drain Lines
Results: Aggregated per Clinic

Incidence of Peritonitis (Mean ± 95% CI)

Patient At-risk Months
Between Cases of Peritonitis

Percent of Patients at Each Clinic Using Drain Bags

< 25%  25% - 49.9%  50% - 74.9%  ≥ 75%
Discussion

- Drain bags have a negative patient exp. impact
  - Lifting and carrying up to 33 lbs every morning
  - Forces interaction with spent fluid on a daily basis
  - Additional storage space required
  - Additional daily connection

- Drain bags have negative environmental impact
  - LDO generates 8-tons of plastic waste per year

- Daily drain bag use increases cost per day
Conclusion

- There is no evidence of a clinically significant higher peritonitis risk based on drain system choice

- Considerations in choosing whether to use drain bags or drain lines
  - Improved patient experience
  - Environmentally responsible
  - Lower cost of care
Questions and Answers