FROM THE EDITOR

Are Quality Improvement Collaboratives the Way Forward in Peritoneal Dialysis?

High-quality peritoneal dialysis (PD) requires the delivery of complex clinical care pathways that are subject to multiple patient, health care, and geopolitical influences. Thus, although many of the risk factors for the development of peritonitis or catheter-related infections are understood, PD-related infection remains a serious concern. These risk factors have been explored in clinical studies published in this and other journals and presented to the renal community in the form of clinical guidelines (1). Considerable variation in peritonitis rates persists between centers and countries (2), at least some of which relates to the application of clinical guidance. An example of this comes from a survey of PD effluent processing reported in this issue of *Peritoneal Dialysis International* by Odudu and colleagues from the UK. They noted variation in effluent volumes sent to the laboratory, management of samples out of hours, whether a gram stain was routinely performed, and culture techniques. Thus, while there is a clear need to improve the evidence around the delivery of PD, there is an equal need to apply what is known more consistently. This is identified as the second translational gap between health services research and healthcare delivery.

Although audit standards are included in existing International Society for Peritoneal Dialysis (ISPD) clinical guidelines (e.g. outcomes evaluation in the infection guideline), there are few published examples of sustained clinical improvements resulting from such work. The challenge is how best to present guidance so that it lends itself to quality improvement (QI) methodologies. One approach is to develop care bundles based on the guidance, which can then be utilized as an instrument within a QI intervention, where concordance with the bundle becomes a process measure. In recent years there has been increased interest in the role of QI collaboratives to improve healthcare delivery. This approach involves groups of professionals from several centers learning from and motivating each other to deliver a common goal. The methodology utilizes a structured approach to educational events, target setting, measurement, and employment of rapid cycles of change. The success of such collaboratives is dependent on factors including the clarity and realistic nature of the objective, team structure and motivation, infrastructure support, and organizational readiness (3).

Standardizing Care to Improve Outcomes in Pediatric End-Stage Renal Disease (SCOPE) is an example of such a collaborative based on a successful quality initiative that focused

on central venous catheter-associated infection in intensive care. The primary aim of SCOPE is to minimize exit-site infection and peritonitis rates among pediatric chronic PD patients. The program measures the implementation of 3 care bundles that describe PD catheter insertion, training, and follow-up (4). This group recently reported a 35% reduction in peritonitis rates as a result of their work over 36 months across 24 participating sites, which was associated with an increase in compliance with the follow-up care bundle from 11% to 88% (5). The success of this collaborative should stimulate similar initiatives elsewhere.

In this issue of the journal, Clara Santos and colleagues report a retrospective study of factors that relate to the occurrence of tunnel and exit-site infection (TESI) among 665 incident PD patients at the University Hospital of Coruña over a 20-year period. *Staphylococcus aureus* carriage at the start of PD was confirmed as a risk factor, which is well recognized and provides a rationale for antibiotic prophylaxis at the time of catheter insertion. The observation that the time between catheter insertion and catheter use impacted on the risk of TESI is also not surprising, but it presents a dilemma for the renal community. An awareness of this risk was recognized in the ISPD access guidelines (6), which recommended that, where possible, the PD catheter should not be used for 2 weeks after insertion. This statement needs to be balanced against the value of using PD for urgent start dialysis, the recognized risk of bacteremia associated with tunneled line use, and the impact of nephrologist catheter insertion on PD utilization (7).

In the Santos paper, several other important practice patterns were not evaluated, including the quality of nurse and patient training, exit-site identification, or hygiene. Indeed, hand washing is central to infection control across medicine. The evidence behind hand washing is clear, and the technique is not difficult to master. However, for this information to be applied, hand washing needs to be embedded as a habit of practice. More broadly, clinical improvement needs to be based on the recognition that the development of habits of practice is a key professional skill. This concept has been presented in a recent thought paper by Bill Lucas and Hadjer Nacer entitled “The habits of an improver” (8).

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