Ten thousand consecutive treatments using the Tablo Hemodialysis System in hospitals and clinics

**Background**

The Tablo® Hemodialysis System is an all-in-one system cleared for use in clinic and hospital settings (Figure 1). Features include an integrated water purification system, the ability to produce dialysate on demand, a simplified user interface, and two-way wireless connectivity that enables treatment records to automatically be uploaded to a cloud-based web server for review by clinicians. Limited connectivity of existing traditional hemodialysis systems makes it difficult to track and trend treatment data and understand how well prescribed treatment parameters are being met. This study reports on the clinical experience using Tablo in the clinic and hospital settings.

**Objective**

The objective of the study was to review 10,000 consecutive treatments across 24 sites on Tablo to evaluate the range of settings and treatment times most commonly used, as well as to demonstrate the utility of the wirelessly transmitted treatment data to track treatment metrics and potentially guide quality improvement.

**Methods**

Data on treatment prescription, clinically significant alarms (see Table 3), and treatment alarms, and treatment results for 10,000 dialysis treatments was collected using the Tablo system and real-time wireless data transmission to a cloud-based, HIPAA compliant platform.

**Results**

Ten thousand treatments were completed across 24 sites that are split between the hospital and clinic settings (Table 2). Of the 10,000 treatments performed, 7720 completed at least 90% of the prescribed time. 1834 (18%) treatments were ended early by the user. The most commonly used, as well as most common cause of early termination in BOTH settings is caused by the user ending the treatment early due to:

- Clinically significant alarms (2.3 and 1.0 per hospital and clinic settings)
- Treatment related reasons (i.e., access issues, clotting, system alerts, etc.)
- Non-Treatment related reasons (i.e., logistics, patient choice, etc.)

End treatment alarms were rare and more likely to occur in shorter duration acute treatments.

**Conclusion**

- Tablo has been successfully used across a wide range of treatment times and ultrafiltration rates in both the acute and chronic environment.
- Tablo can facilitate review of robust treatment data sets via wireless data transmission utilizing Tablo’s cloud-based, HIPAA compliant server to guide quality improvement programs in both the acute and chronic settings.
- In this data set, a quality improvement program focused on acute treatments and understanding reasons for user cancellation (e.g., access problems, interruption for other procedures, patient request, early achievement of treatment goals, etc.) could improve the overall success of prescribed metabolic and volume goals.

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