

INTRODUCTION

Managing CRRT involves above many other things:

1. Choosing a type of anticoagulation
2. Prescribing a dose according to modality and metabolic needs
3. Measuring a real delivered dose

This makes CRRT complex to understand, prescribe, evaluate and predict. The development of a simple, accurate, and accessible tool could be of great value for clinicians in contact with CRRT.

METHODS

We developed a free APP for IOS and Android (Adequator®) that includes three CRRT calculators:

1. Dose predictor: Predicts a delivered dose with a desired therapy
2. Measured delivered dose calculator
3. Regional citrate anticoagulation calculator

[Back](#)

CVVHDF

Patient

Gender: ☐ Male ☐ Female

Age (years): 50

Height (cm): 170

Dry Weight (Kg): 100

Hematocrit (%): 35

Excess Volume (L): 5

Dose (ml/kg/hr): 25

Sieving Coefficient: 1

Prescription

Volume to Distribute (ml): 0

Dialysate (ml/hr): 1000

Replacement PRE (ml/hr): 1200

Replacement POST (ml/hr): 200

Fluid Removal (ml/hr): 100

Min Recommended Qb (ml/min): 150

Qb (ml/min): 120

Ideal Time (Hrs): 24

Expected Time (Hrs): 22

Effluent Saturation (%): 100

Results

Filtration Fraction: 25.5%

Dilution Factor: 0.80

Predicted Delivered Dose: 18.2 ml/kg/hr

KT/V: 0.80

Clearance: 30 ml/min

Removed Fluid: 2.2 L

[Back](#)

Regional Citrate Anticoagulation

Citrate Infusion

Citrate Concentration (mmol/L): 18

Citrate Dose (mmol/L): 3

Blood Flow (ml/min): 120

Calculate

Citrate infusion rate (PBP)*: 1200 ml/hr

Preparation	Citrate []
ACD-A 2.2 %	113 mmol/L
ACD-B 1.32 %	68 mmol/L
FMC®trisodium citrate 4%	136 mmol/L
Gambro®prismocitrate 10/2	12 mmol/L
Gambro®prismocitrate 18/2	18 mmol/L

[Back](#)

Delivered Dose

Patient

Dry Weight: 100

Pre-filter Predilution BUN (mg/dl): 40

Pre-filter Postdilution BUN (mg/dl): 32

Effluent UN "FUN" (mg/dl): 32

Effluent Volume (L): 55

Time of Recollection (Hrs): 24

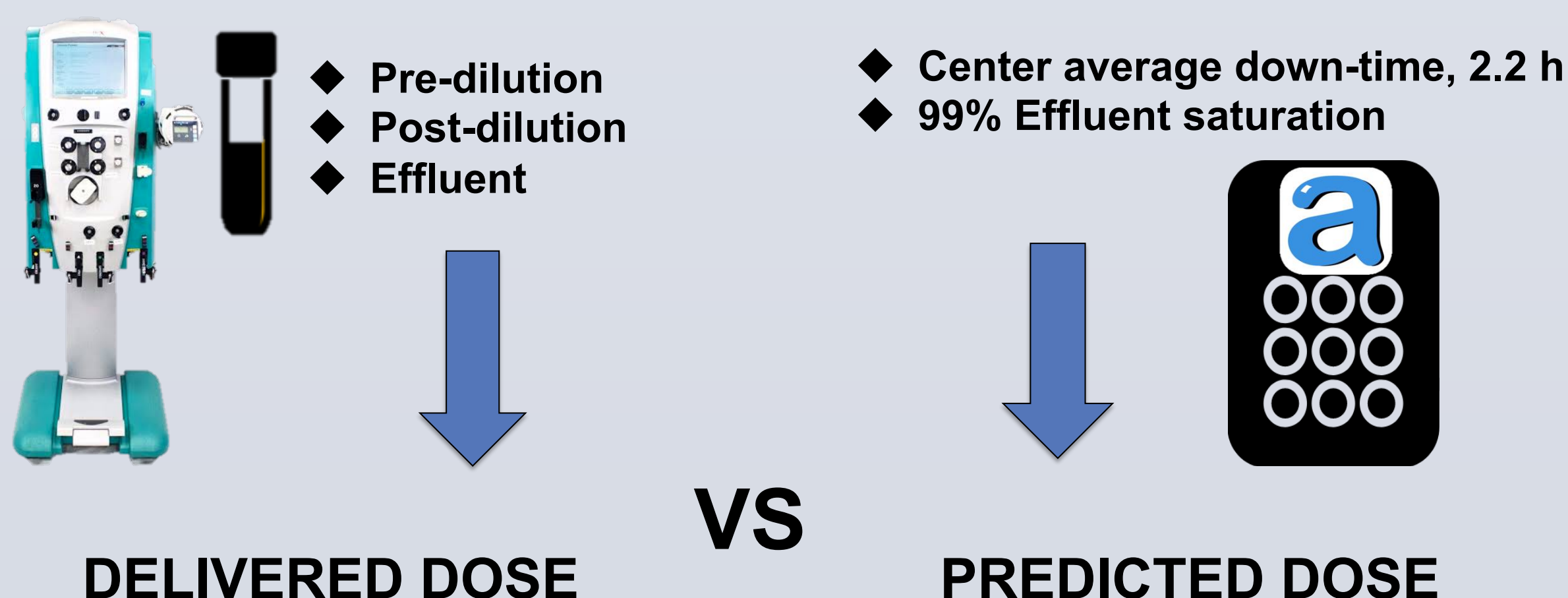
Calculate

Effluent Saturation (%): 100.0 %

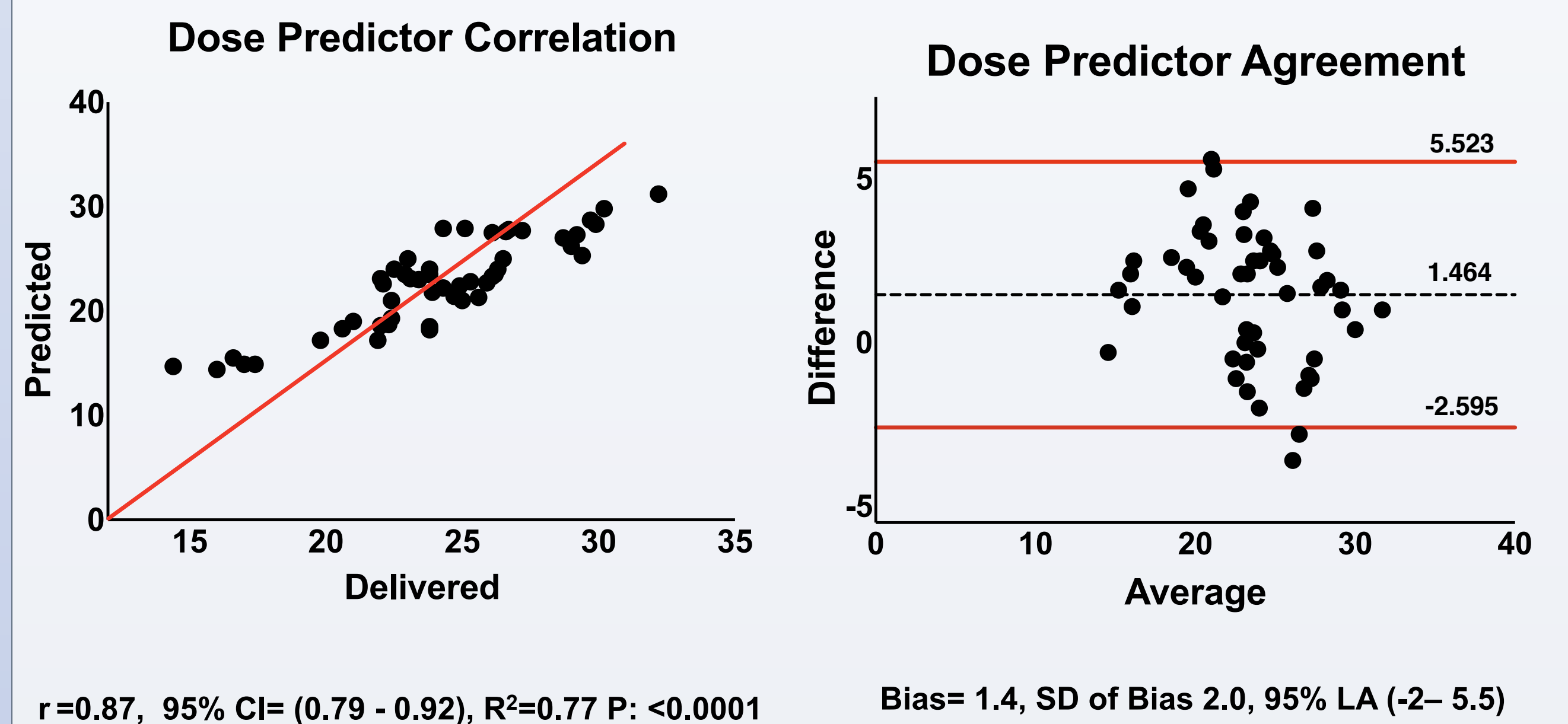
KD: 30.6 ml/min

Delivered Dose: 18.3 ml/kg/hr

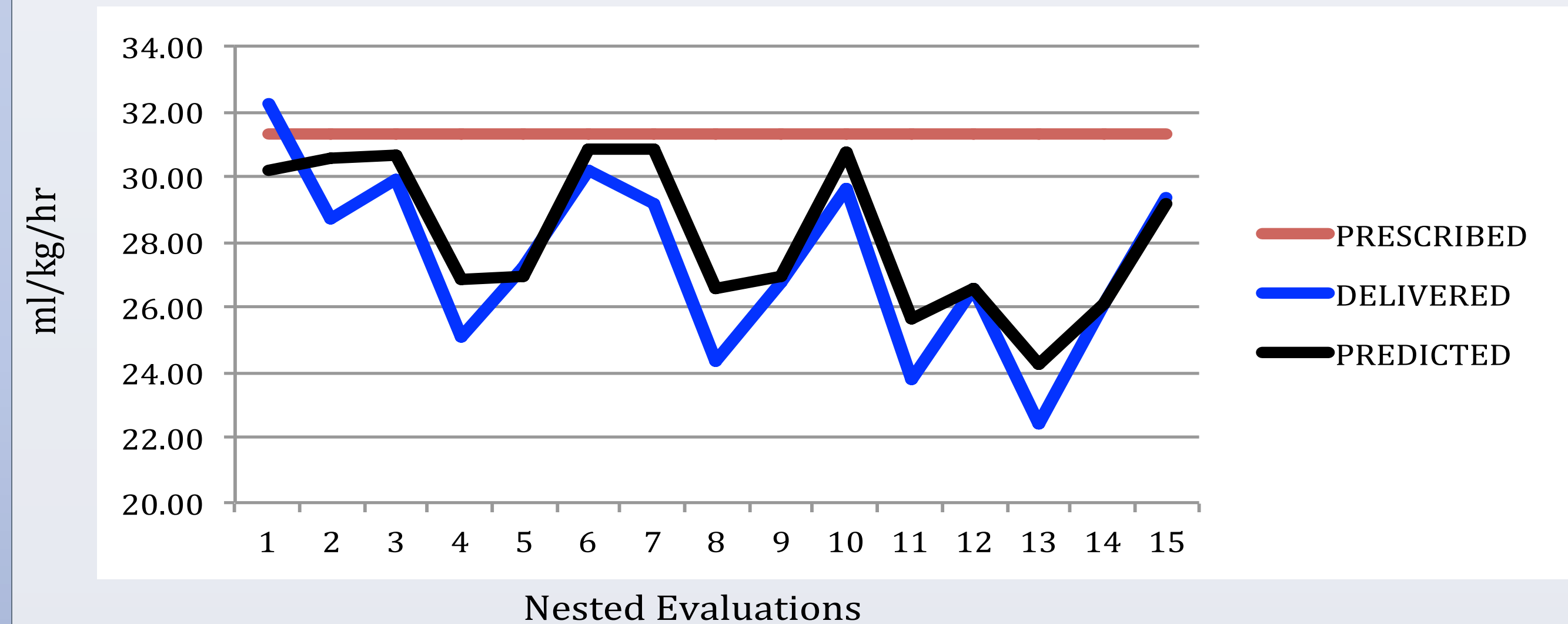
We evaluated 15 CVVHDF treatments, and ran 50 dose evaluations measuring effluent volume and BUN at 3 different sites, every 12 hours. We then compared the measured delivered dose with the results of the predicted delivered dose.



RESULTS



PATIENT 1: PRESCRIBED, DELIVERED AND PREDICTED DOSE






CONCLUSIONS

- The Adequator® can predict accurately the delivered dose before the treatment is given to a patient, and accurately simulate different prescriptions.
- The measured delivered dose and the regional citrate anticoagulation calculators showed to be useful for calculating actual delivered dose and initial citrate infusion rates.
- The use of the three calculators can be very handy in the every day monitoring, prescribing and teaching of CRRT.

CONTACT AND DOWNLOAD



 @galindozip
 @adequator_app
 galindozip@gmail.com