

Single Pass Albumin Dialysis (SPAD) in Pediatric Patients with Hyperbilirubinemia on CRRT.

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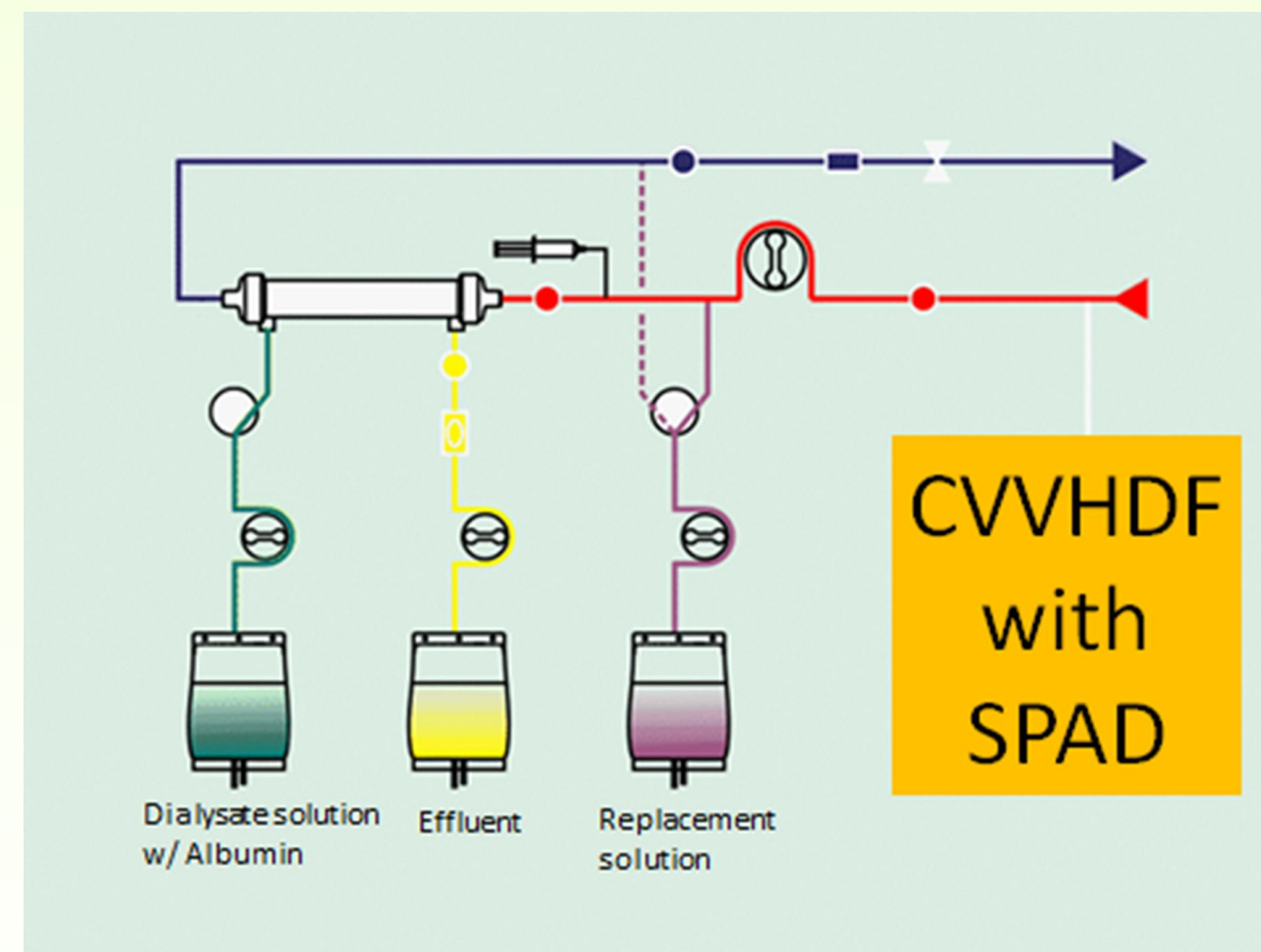
Background

Hyperbilirubinemia occurs in critically ill pediatric patients needing Continuous Renal Replacement Therapy (CRRT) in the ICU. The Molecular Adsorbent Recirculating System (MARS) dialysis has been described in patients with fulminant liver failure. However MARS is available in limited pediatric centers. There is little published data on using albumin in commercially available dialysate solutions for Single Pass Albumin Dialysis (SPAD). We describe the use of albumin as a dialysate additive in two pediatric patients with hyperbilirubinemia.

Methods

- Dialysate is delivered via a weight based CRRT machine (Gambro-Prismaflex). The dialysate bag weight is limited to 5L.
- Albumin was ordered as grams/dL, with pharmacy displacing the volume of dialysate with an equal volume of albumin.
- The bedside nurse weighed each bag of dialysate/Albumin and removed any excess over 5 liters before placing the solution on the pump.

Methods



Results

| RESULTS | Patient A | Patient B |
|-------------------------------|---------------------|--------------------|
| Age | 12 years | 3 days |
| Gender | Male | Male |
| Diagnosis | s/p BMT with Sepsis | PPHN/ECMO |
| CRRT prior to SPAD | Yes | No |
| Total Bilirubin on admission | 1.04 mg/dl | 10.60 mg/dl |
| Total Bilirubin prior to SPAD | 20.22 mg/dl | 44.10 mg/dl |
| Total Bilirubin post SPAD | 16.31 mg/dl | 19.10 mg/dl |
| Hours on SPAD | 136 | 36 |
| CRRT post SPAD | Yes | Yes |
| Disposition | Withdrawal of care | Withdrawal of care |

Conclusions

- Albumin is costly and in limited supply
- SPAD likely works best for short duration times
- Centers using a weight based system for CRRT may have problems with the added weight of albumin.
- Pharmacy resources may be limited.